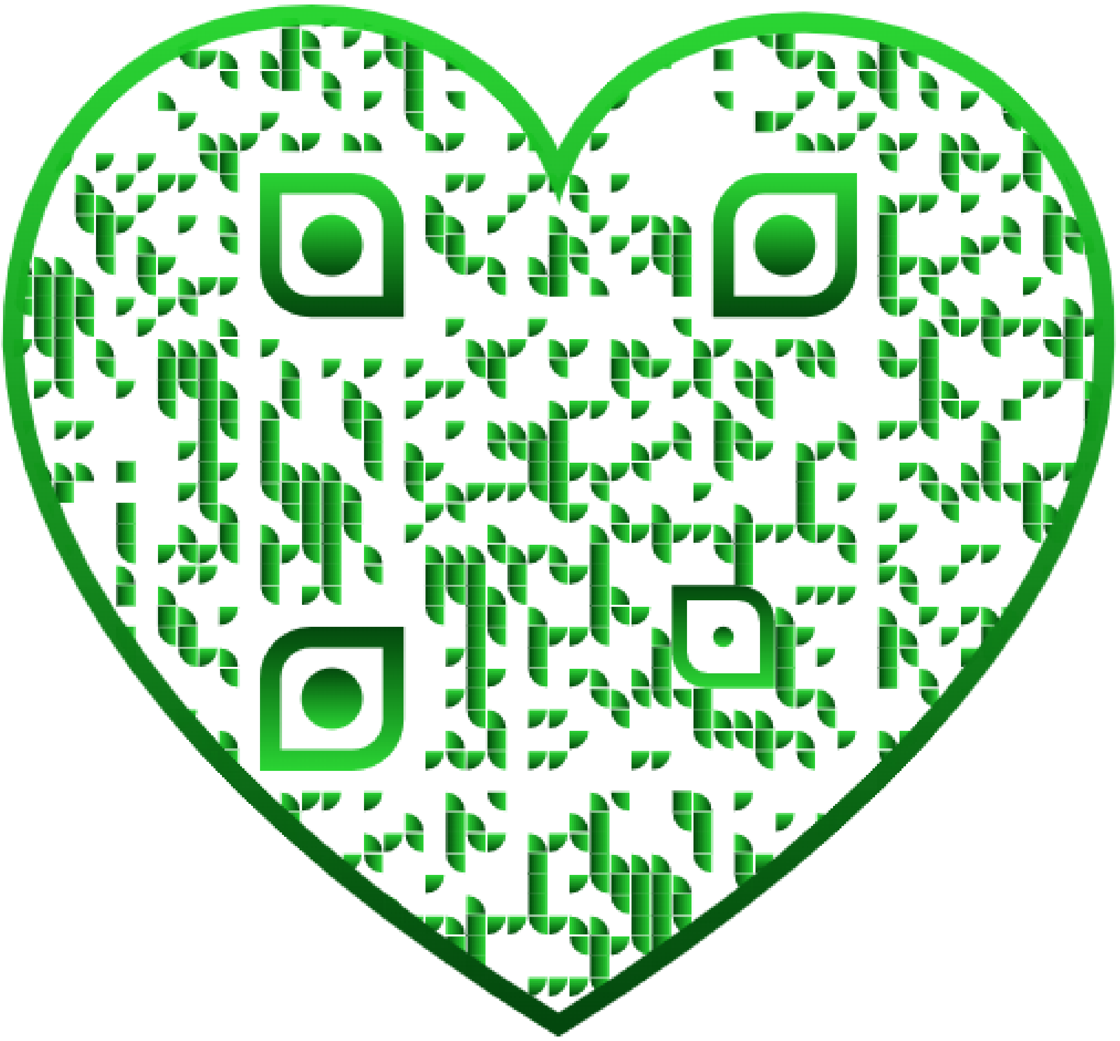
CAR AND DRIVER

JULY/AUGUST 2025

INTELLIGENCE. INDEPENDENCE. IRREVERENCE.

THE 1064-HP CHEVY CORVETTE ZR1 JUMP-STARTS OUR 70TH ANNIVERSARY



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STILL.
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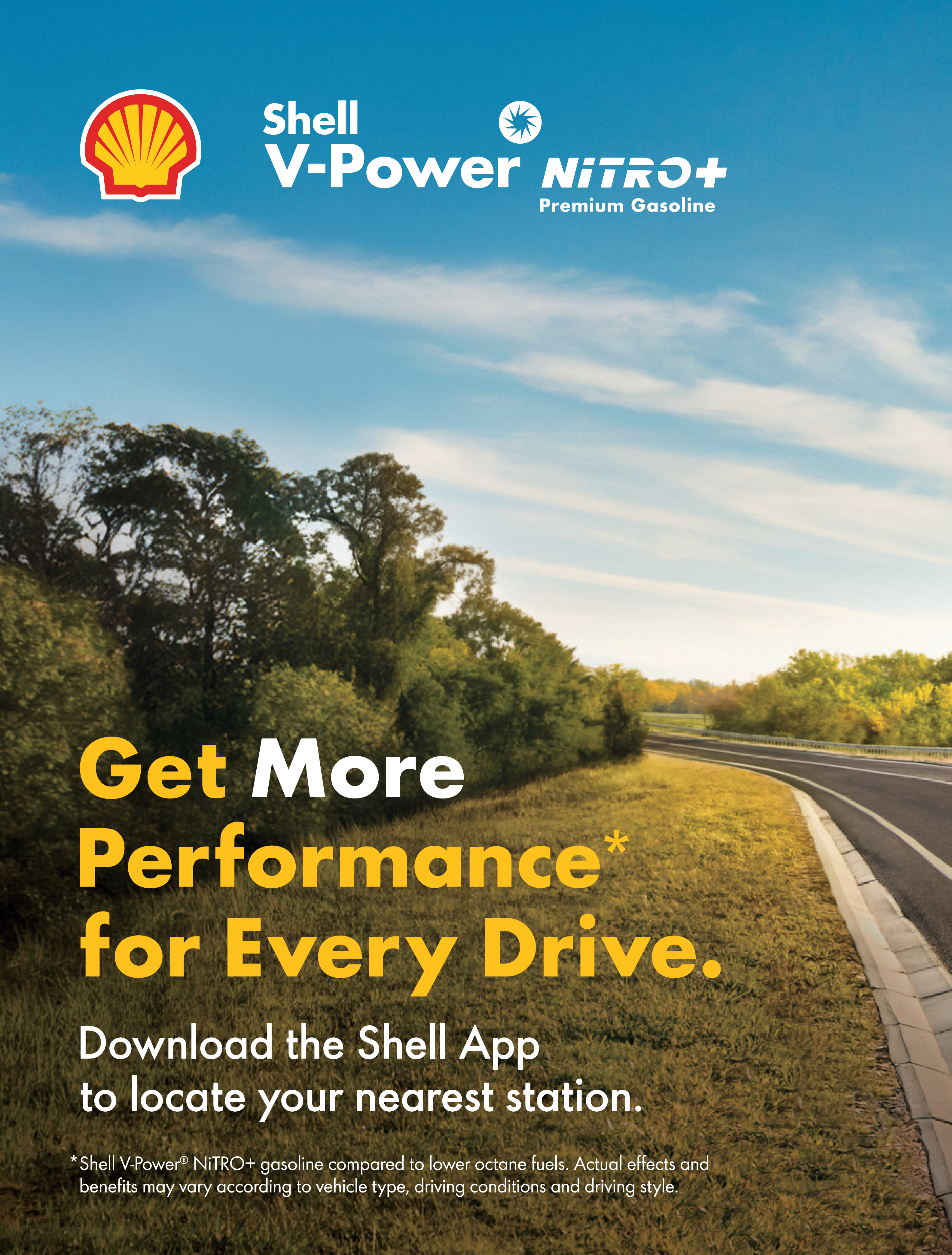
FOREVER.
GOODYEAR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Cover photograph by Greg Pajo

BRZ: MARC URBANO; COMPARO AND JEEP VS. GTO: MICHAEL SIMARI; JAMAICA: ROY RITCHIE

Failure can hold you back. But when you have
the determination to make your dreams a reality,
anything is possible.

You won't remember my name
you won't remember my name

this is the last time
this is the last time

you will see me at the top
you will see me at the top

my doubts
my doubts

will destroy
will destroy

my dreams
my dreams

the more I seem to learn
the more I seem to learn

the more I seem to lose
the more I seem to lose

I want to carry on
I want to carry on

but not today
But not today

This is the point I give up

Turn upside down and read again

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Letter from the Editor

–

Tony Quiroga

Car and Driver magazine is staring down the big 7-0.

I CAN STILL REMEMBER *C/D*'s 50th, largely because embarrassment is hard to forget. The issue wasn't the issue—the July 2005 magazine celebrated our first 50 in an entertaining way. It was the party we threw that haunts me. For those of you who attended our 50th birthday bash at Indianapolis's lesser-known track, we were happy to see you but must apologize for a sparsely attended and disorganized event whose sole claim to fame is that it was better than the Fyre Festival. At least Grand Funk Railroad showed up and played "We're an American Band."

There's no party this time around, but the issue you're holding in your hands is a celebration of a 70-year commitment to cars. Over the decades, we've driven most everything on four wheels, a few on three, and even some on two. We've tested, tortured, and raced because it's fun but also because it's the best way to vet vehicles and technology and serve our mission to help you find the best cars. We're skeptical but also excitable and interested in celebrating greatness, wherever it may come from. A parallel mission of *C/D* has been to share the joy of our work, to take you on a journey to the edge and back.

On the digital side, you'll be able to read this issue in our new immersive template. Caranddriver.com continues to serve not only enthusiasts but also car shoppers with detailed reviews of every make and model, as well as ranked lists. We designed the site to give buyers the information they need to make a purchase, and soon you'll be able to dig deeper and compare vehicles in several areas, from performance to cargo capacity to fuel economy. Eventually, our website will facilitate finding the car you're looking for and, with a few taps on your phone, buying it.

Turn to page 18 for our exclusive road test of the 2025 Chevrolet Corvette ZR1. The *C/D* road test is the definitive word on any car and builds on our 70 years of testing and reviewing experience. This one is written by contributor Jared Gall and marks his return to our fold.

Irreverence with a side of silliness has long been a hallmark of this magazine, and on page 34, you'll encounter a very different kind of test inspired by a 1964 review that dared to compare the Ferrari GTO with the Pontiac GTO and helped put us on the map.

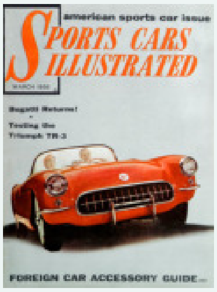
Flip beyond that second test and you'll find the latest installment of our project-car series, born of a desire to modify a vehicle to meet our often unconventional wants. The Subaru BRZ on page 46 joins the menagerie of *C/D* project cars, some of which still sit behind the office.

Next is that *C/D* staple, the comparison test, which provides us with the ability to analyze and rank a vehicle segment methodically. We pick winners and name the losers. On page 56, we've done it with four semi-affordable sports sedans.

To tap into our unexpected experiences and adventures, head to page 72 for the next in a long line of classic *C/D* travel stories. Senior editor Ezra Dyer flew to Jamaica on 4/20 to report on the island's grassroots racing scene.

Capping the issue is a longtime reader favorite, the data-driven research article. In the tradition of *C/D* technical analyses, such as the various best-handling tests that rewarded the cars we love to drive the most and our 2017 feature on autonomy that looked at a driverless future, this latest piece, on page 82, examines the data behind advanced driver-assistance systems to determine whether they're making roads safer.

But first is Backfires, *C/D*'s unique letters section hosted by *Ed*. Thank you for joining us on this journey, and we hope you enjoy this issue. I'm certain you'll let us know if you don't.

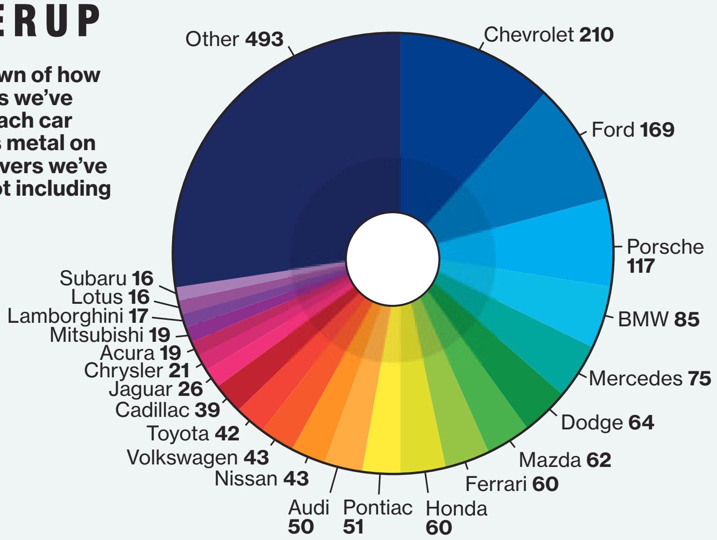


american sports car issue
SPORTS CARS ILLUSTRATED
FOREIGN CAR ACCESSORY GUIDE

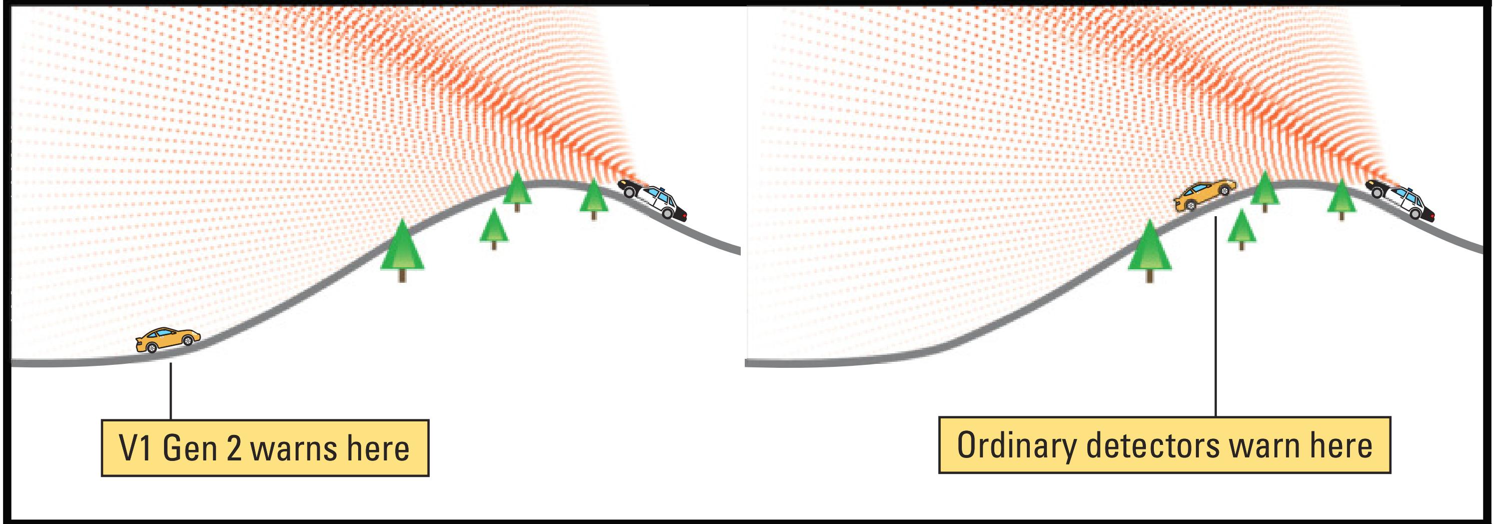
We've featured Chevrolet vehicles on our cover 210 times, more than any other brand. Most were Corvettes. Here's the first, from our *Sports Cars Illustrated* days.

COVERUP

A breakdown of how many times we've featured each car company's metal on the 824 covers we've printed (not including this issue).



V1 Gen2 means Range Superiority



Radar works by bouncing a microwave beam off your car, then reading the reflection.

Radar detectors work by sensing the beam before the radar gets a clean read.

V1 Gen2's long-range detection takes place at a distance beyond the beam. That's possible because the beam fades and scatters the farther it travels. Our LNA technology—think of it as an electronic magnifying lens—looks for the first faint microwave fragments as they flicker in the distance.

New, and patented, SAW D²L: Detecting ever fainter flickers creates massive data flow. SAW D²L jumps the processing rate more than a hundred times, enabling V1 Gen2 to rapidly sort speed-trap radar signals from today's glut of lane-change and crash-prevention radars in other cars.

Range Superiority: LNA's faint-signal acquisition feeding the high-rate analysis of SAW D²L adds up to a breakthrough in early radar warning. The range increase on Ka band is especially dramatic. Our new K-Verifier weeds out unwanted K alerts.

- **Stealth**...LNA has another benefit—it acts as a one-way valve, trapping tell-tale signals before they escape the magnesium case. V1 Gen2 is practically undetectable.
- **Free Upgrades via smartphone** Check **valentine1.com** for the latest.
- **Now available...USB Power Adapter** for cars that lack a 12-V lighter socket.

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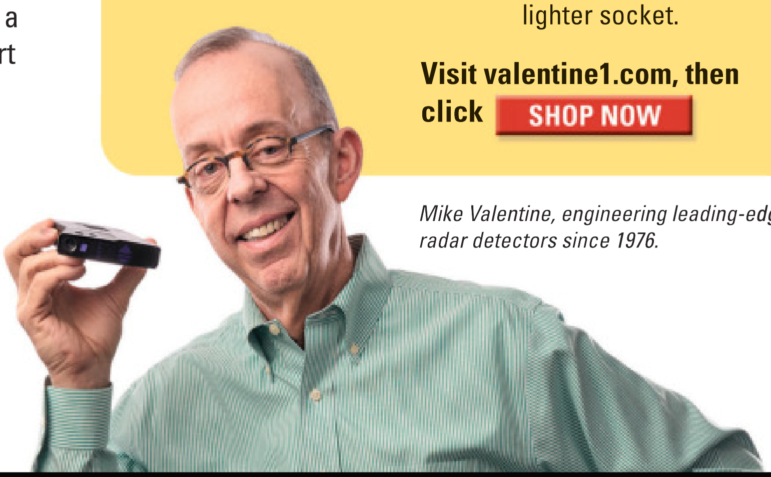

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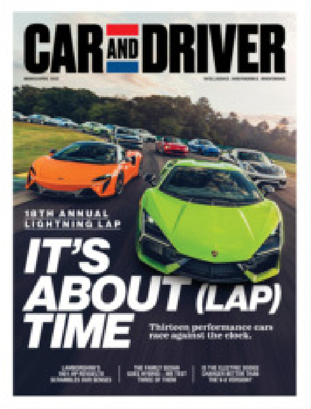
STILL MADE IN CINCINNATI

BACKFIRES

_SIC YOUR DOGS ON US AT: **EDITORS@CARANDDRIVER.COM**

Think of it as the peer-review section of the magazine, hosted by your pal Ed.


CAR AND DRIVER
18TH ANNUAL LIGHTNING LAP
IT'S ABOUT (LAP) TIME
Thirteen performance cars race against the clock.

YOU'VE GOT ISSUES
I'm out in the dog yard with the March/April 2025 issue. Have music on my phone and my weekend Bloody Mary while reading every word you print about everything automotive. Please don't ever go digital only! Reading under the umbrella with wind blowing pages is where it's at!
—Bill Haneline
San Diego, CA

From the Letter from the Editor of "the new and improved" *Car and Driver*, Vol. 70, No. 2: "The magazine now has . . . more pages." Silly me—I read that as more content in each double issue. Mr. Q. took only six issues to start pulling pages instead of punches. The second issue of Vol. 71 had 30 pages less than the first and last issues of Volume 70. I'm going to hang in there even when we're just receiving quarterly pamphlets. Yes, yes, I know, our "subscription terms will remain the same."
—Doug Powell
Sarasota, FL

LIGHTNING STRIKES
As usual, the Lightning Lap feature was a fun read ["Lightning Lap 18," March/April 2025]. I find myself giddy when thinking of the massive volume of Backfires letters you will be getting in reaction to your choices and results. I cannot wait to read the whining, complaining, and threatening letters you will inevitably receive. So I came up with a thought. To allow your Backfires mavens to enjoy all the spittle, you should create an LLS (Lightning Lap supplement) wherein you give us more of the drama. I am buying a large amount of popcorn in anticipation.
—Ted Anthony
Austin, TX
Let the fun begin—Ed.

I have a question as to why the list of entrants in this year's Lightning Lap seemed somewhat short. Is there a compelling reason you did not have an Acura Integra Type S, a Corvette Z06, a Ford Mustang GT500, a Honda Civic Type R, or a Toyota GR86? Inquiring minds want to know.
—Jim Unger
Chatsworth, GA
We've already tested those cars in previous installments of Lightning Lap. Head to our website to read about their laps—Ed.

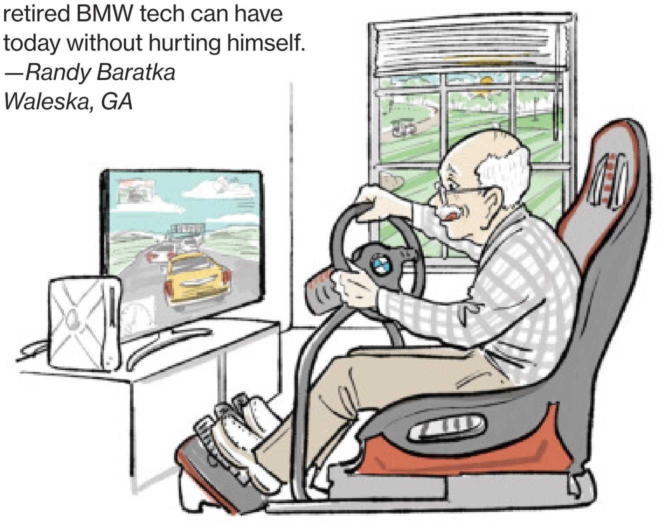
I read that a GM driver ran a 2:32.3 on the Grand Course at Virginia International Raceway with a 2025 C8 ZR1. Pretty awesome time! I just have a plain-Jane C8, but I love to see any articles on a Corvette, be it a C1 or a C8. I was hoping to see what your drivers could run with the new ZR1 at the 2025 Lightning Lap. Maybe next year?
—Bart Chapek
Cadott, WI
The ZR1 wasn't available for our Lightning Lap testing, but we'll have one next year. Until then, there's a ZR1 road test on page 18—Ed.

Last March, I bought an Xbox to play *Forza Motorsport*. I discovered that the VIR Grand West Course was included. Since then, I have been trying to get a handle on this track. I figured if I could match the times you set at VIR, I could consider my skills on this sim acceptable. There are cars in my stable comparable to your contenders, and I have had some of my most fun sessions on *Forza* driving the Cadillac CTS-V, the Mazda Miata, the Porsche 718, and others on the Grand Course. Driving the Cadillac without aids might be the most challenging. With Sport traction control in the Cadillac, I have turned a 2:51.1. In the MX-5 with no aids, I have clocked a 3:11.4. This is the most fun a 70-year-old retired BMW tech can have today without hurting himself.
—Randy Baratka
Waleska, GA

I went straight to the Lightning Lap story to see how two of the most desirable new cars performed at VIR: the Ferrari 12Cilindri, an 819-hp V-12 gem, and the bargain-priced 1064-hp Corvette ZR1. Disappointed! Did you think including two four-door Hyundais would cause readers to overlook two obvious choices that were missing?
—Gregory Peterson
Detroit, MI
Ferrari is invited every year. Sometimes they want to play, and sometimes they don't—Ed.

Where was associate editor Jack Fitzgerald's attempt to improve his time at VIR? That was at least as interesting as the cars.
—David Robinson
West Columbia, SC

I'm sure it's a blast to zip around VIR in megabuxmobiles, but it might be more interesting if there were a few more cars that persons like me could actually afford.
—D.W. Jones
Mequon, WI
How about those Hyundais?—Ed.



LETTER OF THE ISSUE

When reading the Letter from the Editor memorial to the late, great Jean Jennings [March/April 2025], I learned something: There's a magazine, *Panorama*, dedicated to all things Porsche. I thought *C/D* had that market cornered, with your bi-Manthey issues. I'll see myself out.
—Don Hollenbeck
St. Louis, MO
Be sure to holla back, Hollenbeck, when you're wearing this stylish hat from Mercedes-Benz's Formula 1 team—Ed.

Let me get this straight: You had electric cars needing "lightning" at this year's Lightning Lap, and you accomplished this using a generator? Maybe next year rent a windmill. Don Quixote would be proud.
—Joe Ligotski
Dallas, PA
Dream the impossible—Ed.

I want to give my kudos to Ford for the Ford Performance F-150 Lightning SuperTruck. Six thousand pounds of downforce at 150 mph is mind-bending, as well as frame-bending. It gives a new meaning to run-flat tires.
—Jim Case
Cheyenne, WY

Under "Finishing Move," you state that when Ford's SuperTruck ends its lap, the Air Sapphire is 0.9 mile behind. Comparing the difference in lap times, something seems off; the Air covers the last almost-mile in about 20 seconds? Doing the math (albeit with the very middling amount of significant figures available), the Air's average speed for the rest of its lap comes out to over 153 mph. That seems impossible. Can this be true, or is there an error somewhere?
—Brandon Zacharias
Audubon, NJ
It is indeed impossible. The Lucid's spot on the map is correct, but that position is only 0.5 mile from the finish, not 0.9 mile—Ed.

Between the M2 and the M3/M4 models, including the CS trims, it's clear there is little BMW love in the *Car and Driver* writers' pool, considering that not one M car was selected for the Lightning Lap test. While we all know nothing compares to a Porsche or a Lambo for the editors, breaking up the monotony of the quasi-supercars, which you need to fork over a dealer markup and your right big toe to actually purchase, with some more street-biased cars would go a long way to enfranchising some of us once-in-a-while track guys who are more street focused.
—Wyatt, a jilted M lover
Online Land
We've already had all the BMW models you mentioned at Lightning Lap. When there's something new from BMW, we'll include it—Ed.

I am enjoying the newer format: fewer issues per year, but they're better than ever. You stated that the Cadillac CT5-V Blackwing could empty the fuel tank in eight laps. That's 1.88 mpg. I know you're pushing these cars hard, but is that correct?
—Curious George
Oklahoma City, OK
Yes—Ed.

My invite to Lightning Lap, and my chance to write a candid, interesting, and funny piece about the reader experience, must have been lost in the mail for the 18th time.
—Sam Carkhuff Jr.
Denver, CO
The pigeon didn't reach you? I'll splurge for a raven next year—Ed.

FROM SANT'AGATA

"The Mad Scramble," maybe [March/April 2025]. The photo of the Lamborghini Revuelto on page 42 looks like the driver is about to take the car off-road, based on the steering angle. If off-roading occurred while reviewing the car, I am sure it would have made an interesting addition to the story. Therefore, I am claiming a fictitious photo.
—Chris Renzelman
Madison, AL
Claim denied—Ed.

Base price of a 2024 Lamborghini Revuelto: $612,858. Cost of options for the *C/D* test car: $116,600. Driving said Lambo to the grocery store: priceless.
—Patrick Dee
Albuquerque, NM
Close second for Letter of the Issue—Ed.

Help me, please. In the specs for the marvelous Lamborghini Revuelto, the engine makes 814 horsepower, and there are three electric motors (147 horsepower each, for 441 horsepower), which totals 1255 horsepower. Yet you indicated that the "Combined Output" is 1001 horsepower. Check the gate there, pardner—y'all are missing 254 ponies! Help a fellow cowpoke. How many horses, really? I suppose after 1000 it don't much matter, but it's a burr in my saddle.
—Kevin B. Parsons
Meridian, ID
It's common for the peak power of electric and electrified vehicles to be less than the sum of the outputs of the individual components. The peak power flow rate from the battery is the limiting factor—Ed.

I know you receive letters asking you to review cars that the general public actually buys, and I consider myself part of that group. But when I turned one single page in the magazine and went from the lime-green Lamborghini to a Honda Accord, a Toyota Camry, and some other car, my heart sank.
—Graham Helmich
Richmond, CA
We call that the Helmich maneuver—Ed.

ALL IN THE FAMILY

Down to six issues a year, and you still waste one on the Lighting [*sic*] Lap? At least the Accord/Camry/Sonata comparo is a step in the right direction ["Electrical Connection," March/April 2025].
—Andrew Laurence
Costa Mesa, CA
Some of our readers are really into 1000-watt incandescents—Ed.

WHO WORE IT BEST?

In your 2022 Rivian R1T long-term review [March/April 2025], you stated that driving 20,000 miles per year and charging at home (the cheapest way) would cost $2046, which is the same

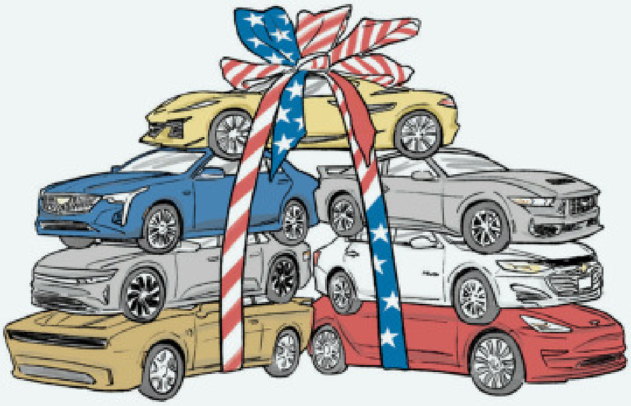
ILLUSTRATIONS BY BRETT AFFRUNTI; PHOTOGRAPH BY MARC URBANO

BACKFIRES

as a gas-powered vehicle averaging 30 mpg. Yet the Rivian is rated at 70 MPGe (and *C/D* observed 56 MPGe). If it costs the same as a 30-mpg car, how is it rated more than double the mpg?
—Brian B.
Waukesha, WI
MPGe does not factor in the price required to refuel the vehicle, only the energy spent—Ed.

I'm not sure what is correct in regard to the Rivian R1T. Tire life expectancy is 35,000 miles, but during your test, tires were changed at 20,000 miles and needed to be changed again at the 40,000-mile mark.
—Jeff Snyder
Lebanon, PA
We replaced our R1T's tires early because they had become obnoxiously loud, but 35K miles is correct for running them down to the wear bars—Ed.

You reviewed the Thunderbolt Adventure Supply kitchen for the Rivian R1T. I live in an area with bears, and I've known people who've had their interiors trashed by a bear, and it's usually because the bear smelled food. Sliding that kitchen back in with bacon grease on it would be an invitation to a bear to try to claw its way into the gear tunnel.
—Dean Hebert
Marion, NC



A Public Service Announcement and a revelation (to *C/D* editors and readers): You don't have to buy a POS made in Japan, Germany, or Korea despite what you read here. Great cars are designed and made in the U.S.A., supporting the economy, neighborhoods, and people of America. Who knew?! Maybe one day we will even read an article about them.
—Sheldon Townsend
Moses Lake, WA
There aren't many mainstream American cars anymore. Blame the companies that don't build them and today's buyers. We've covered the cars from U.S. brands that remain: the Cadillac CT4 and CT5, the Chevy Corvette and Malibu, the Dodge Charger, the Ford Mustang, the Lucid Air, and the Tesla Model 3 and Model S. Also, foreign automakers Acura, Honda, Hyundai, Kia, Lexus, Nissan, and Toyota build some sedans stateside—Ed.

SCOTLAND YARN
In the article on the MG4 ["An American Touring Scotland in an English Car Built in China," March/April 2025], you include eight pictures of it, and yet I still don't know what it looks like from the side or the rear.
—Rod O'Byrne
Regina, SK
We wanted to show its good side—Ed.

PHOTOGRAPH BY CHARLIE MAGEE

ARTFUL DODGER
Look, there's a swing and a miss, and then there's miss and swing the bat all the way around into your own mouth, banana-peel slip, throw the bat in the air, go ass-over-teakettle, land face-first in a pile of mud, and then have the bat land square in your "fartzonic" exhaust. Dodge accomplished the latter with the new Charger ["Duke Boys Face Charges," March/April 2025].
—Sam M.
Potomac, MD

What is the collaboration between Dodge (Stellantis) and Mitsubishi on the 2024 Dodge Charger Daytona? The picture of the display clearly alludes to the tie-up, with the Mitsubishi logo in the display.
—Tim Kowallek
Escondido, CA
That logo is called the Fratzog. It was Dodge's principal logo in the 1960s and '70s and is unrelated to Mitsubishi's three-diamond logo—Ed.

RIP, JEAN
Jean Jennings was an exceptional person with a remarkable personality [Letter from the Editor, March/April 2025]. Her presence always lit up the room; her insights were unique and perceptive. Whether in a business or social setting, being with her was a blast. I would love to sit next to her at dinner one more time!
—Jay Qualman
Milford, MI

FIRE STARTERS
Your comments in response to readers' letters to Backfires continue to be sophomoric and smug [March/April 2025]. They aren't really as funny as you think they are.
—Alden Wells
Braintree, MA
Not even this one?—Ed.

Ed. is funny again!
—Ashish Kapoor
Internetland
Says you—Ed.

Thanks, Brett Berk, for the heartfelt and respectful obituary for artist and former *C/D* contributor Pippa Garner. At a time when trans people are grossly vilified for no reason other than it gets the rubes all het up, I appreciate her being treated as someone whose existence, like all of ours, should not be questioned. Her art always made me laugh, and printing "The Gremlin Legacy" was a fitting tribute.
—David Broudy
Louisville, KY

INTO EZRA
Here is a suggestion for Ezra Dyer: Drop "I mean." In modern speaking, it has begun to replace "like," and unfortunately, we sometimes write as we speak. These words are trite crutches, and your writing is clear and concise, and you don't need to rely on them.

Sic your dogs on us at: editors@caranddriver.com

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JULIUS **RANDLE**

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Slip-ins

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HANDS FREE.

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RICKEA **JACKSON**

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BACKFIRES

The *Car and Driver* work is really quite good, by the way.
—Rich Koon
Oceanside, CA

I just wish I knew what you mean—Ed.

STRONG CURRENTS

One disadvantage of the quick-disconnect electronic fuses is that they can't be reset or replaced by the drivers on the road ["A Current Affair," March/April 2025]. More technology is not always better.
—Charles Elms
Ellicott City, MD

I suppose you're still polishing your points—Ed.

WATCH THIS

Writing to say that I'm old enough to appreciate the *Trading Places* reference on page 18 ["Race for Time," March/April 2025]. Well done.
—Mark Newman
Houston, TX

Looking good, Mark Newman—Ed.

The Rolex Daytona is a good-looking watch. But if it *could* tell time in Monte Carlo, Beverly Hills, London, Paris, Rome, and Gstaad, that would probably make it *the* sports watch of the '80s! Although, in Philadelphia, it'd only be worth 50 bucks.
—Matt Newman
Hillsborough, NJ

Do you mean to imply that it's stolen?—Ed.

MERKUR POISONING

I was shocked and pleased to see John Phillips's comments (and lament) on the birth and death of the 1985–89 Merkur XR4Ti ["The Best Odds," March/April 2025]. He absolutely captured the essence of this car, which I also had the pleasure of owning for four years. Its front-engine, rear-wheel-drive layout and manual transmission put more smiles on my face than I can relate in this letter. It was a linear, precise driver—wherever your hands pointed on the steering wheel, that is *exactly* where the car would go.
—Dave Parks
Wenatchee, WA

Phillips's back-page story reminded me of my 1986 Merkur XR4Ti, on which I put over 140,000 miles. It fit me better than any other car I have ever owned, and it had a great balance of sufficient acceleration, handling, and brakes to make every drive a pleasure. I had to replace a pilot bearing and a fried ECU (which failed while I was accelerating onto a freeway in very heavy rain), and in its last months, I had some electrical gremlins.
—John Kirlin
Sacramento, CA

IN CLOSING

This is not intended as a "Letter to the Editor."
—Joseph Berry
San Diego, CA

Okay—Ed.

You should do an article on the Honda kei truck. Also, can I be in Backfires?
—Hadden Watson
McKinney, TX

You only get one wish, Watson—Ed.

May the road spread
out before you like an
asphalt dance floor
as you weave along on a wet,
slick, anaconda of a two-lane.
Leaving the city lights in
your rearview winking,
as you row your own
into the dark, warm,
narcotic American night.
—Cleave
Oakdale, PA

I'm snapping my fingers—Ed.

CAR AND DRIVER

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Published by HEARST 300 W. 57th Street, New York, NY 10019
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CAR AND DRIVER® (ISSN 0008-6002), **Vol. 71, No. 4** July/August 2025, is published bi-monthly, 6 times per year, with combined issues in January/February, March/April, May/June, July/August, September/October, and November/December, by **Hearst,** 300 West 57th Street, New York, NY 10019, U.S.A. Steven R. Swartz, President & Chief Executive Officer; William R. Hearst III, Chairman; Frank A. Bennack, Jr., Executive Vice Chairman. **Hearst Autos, Inc.:** Debi Chirichella, President, Hearst Magazines; Regina Buckley, Chief Financial and Strategy Officer & Treasurer; Catherine A. Bostron, Secretary. © **2025 by Hearst Autos, Inc.** All rights reserved. Trademarks: ***Car and Driver* is a registered trademark of Hearst Autos, Inc.** Periodicals postage paid at New York, NY, and additional mailing offices. Canada Post International Publications mail product (Canadian distribution) sales agreement no. 40012499. Editorial and Advertising Offices: 1585 Eisenhower Place, Ann Arbor, MI 48108. **SUBSCRIPTION PRICES** United States and possessions: $13.00 for one year; Canada, add $10.00; all other countries, add $24.00. **SUBSCRIPTION SERVICES** *Car and Driver* will, upon receipt of a complete subscription order, undertake fulfillment of that order so as to provide the first copy for delivery by the U.S. Postal Service or alternate carrier within 4–6 weeks. **MAILING LISTS** From time to time, we make our subscriber list available to companies who sell goods and services by mail that we believe would interest our readers. If you would rather not receive such offers by postal mail, please send your current mailing label or an exact copy to Mail Preference Service, PO Box 5173, Boone, IA 50950. You can also visit preferences.hearstmags.com to manage your preferences and opt out of receiving marketing offers by email. *Car and Driver* assumes no responsibility for unsolicited material. None will be returned unless accompanied by a self-addressed stamped envelope. Permissions: Material in this publication may not be reproduced in any form without permission. Back Issues: Back issues are available for purchase in digital format only from your app store of choice. **POSTMASTER** Send all UAA to CFS. (See DMM 507.1.5.2); **NON-POSTAL AND MILITARY FACILITIES** Send address corrections to *Car and Driver*, PO Box 5173, Boone, IA 50950. **Printed in the U.S.A.**

IN MEMORIAM Gilbert C. Maurer (1928–2025) was the director and former COO of Hearst, who, in over 50 years of partnership with executive vice chairman and former CEO Frank Bennack Jr., made Hearst one of the fastest-growing media companies in the world. Gil's wisdom, mentorship, and commitment to excellence, as well as his vital support of the arts, will be dearly missed.

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YEARS OF
CAR AND DRIVER

The Road Test

Coca-Cola
CAR and DRIVER

THE LAST WORD ON HOW A NEW CAR DRIVES, FEELS, AND PERFORMS.

WHILE THERE ARE MANY PARTS to *Car and Driver*, a foundational element that separates us from lesser publications is the road test. The ultimate expression of our product expertise and knowledge, the road test blends subjective opinion garnered from our experience with objective numbers generated by our instrumented testing, which covers everything from sprints to 60 mph to stops from 100 mph. ROADTEST has even been a *New York Times* crossword answer (clue: "Car and Driver assignment").

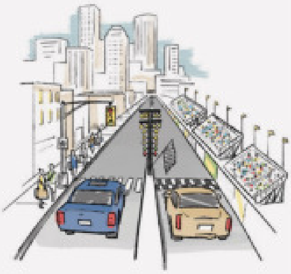
Besides serving as a check of sorts on carmakers' claims, the road test's objective numbers provide readers with quotable data, and the story should give anyone flicking through *C/D*'s pages a thorough understanding of how a given vehicle performs from the driver's perspective. Our aim is to put your butt in the Recaro.

While we may not have invented the road-test format, we have spent just shy of seven decades perfecting the formula. Our first true road test appeared in the March 1956 issue of *Sports Cars Illustrated*, penned by legendary automotive writer Karl Ludvigsen. Much of the early format looks familiar, including an accompanying specification panel featuring a slate of test data. This initial road test was a literal Triumph. A TR3, specifically.

Early tests included acceleration, top speed, and fuel economy. In the ensuing years, our testing parameters have expanded to include stopping distance, skidpad grip, passing times, sound-level measurements, and several we created, such as the 5-to-60-mph test. Continual innovation and evolution is a certainty, and we listen to you. After all, we ditched the confusing-to-some spider graph and made its replacement friendly to colorblind eyes.

We challenge our vehicular subjects by highlighting their performance on some of our favorite roads throughout the world or testing their off-tarmac capability on chassis-chattering trails and dunes. All to inform you, the reader, just how well a vehicle performs—and do so in a story that is as interesting and exciting as the vehicles and the places themselves. We think our road test is the best way to review a car. We can say with confidence: If it's not in a *C/D* road test, it's not important.

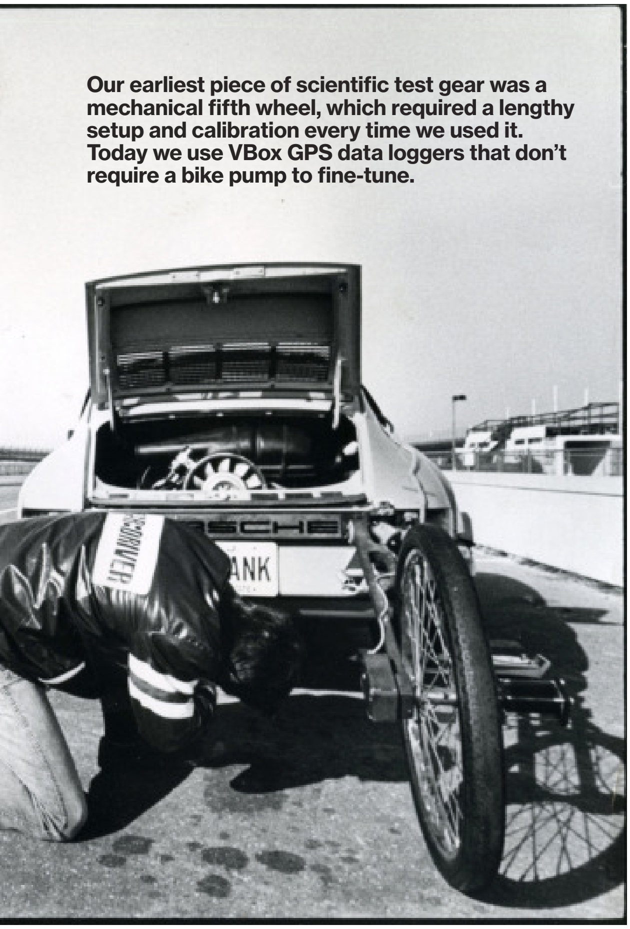
PAGES ON PAGES
Starting with the July 1955 issue, then called *Sports Cars Illustrated*, we've published 107,124 pages (not including the ones in this issue), give or take an advertorial or two.



TEST WE INVENTED

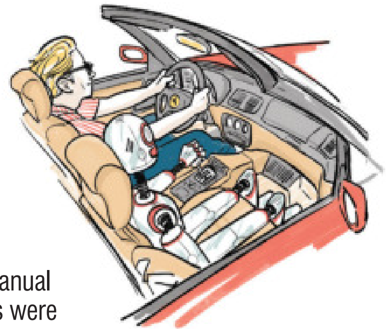
5 TO 60 MPH
Born in 1991, the 5-to-60-mph test seeks to remove an aggressive launch to mimic more closely what owners experience at a stoplight. The test starts with the car rolling at 5 mph before we floor the accelerator until the speedometer reaches 60 mph. The difference between standing-start 60-mph and 5-to-60-mph times helps expose turbo lag and peaky engines.

STACK: MICHAEL SIMARI; TEST AND DEAD ENDS ILLUSTRATIONS: BRETT AFFRUNTI



Our earliest piece of scientific test gear was a mechanical fifth wheel, which required a lengthy setup and calibration every time we used it. Today we use VBox GPS data loggers that don't require a bike pump to fine-tune.

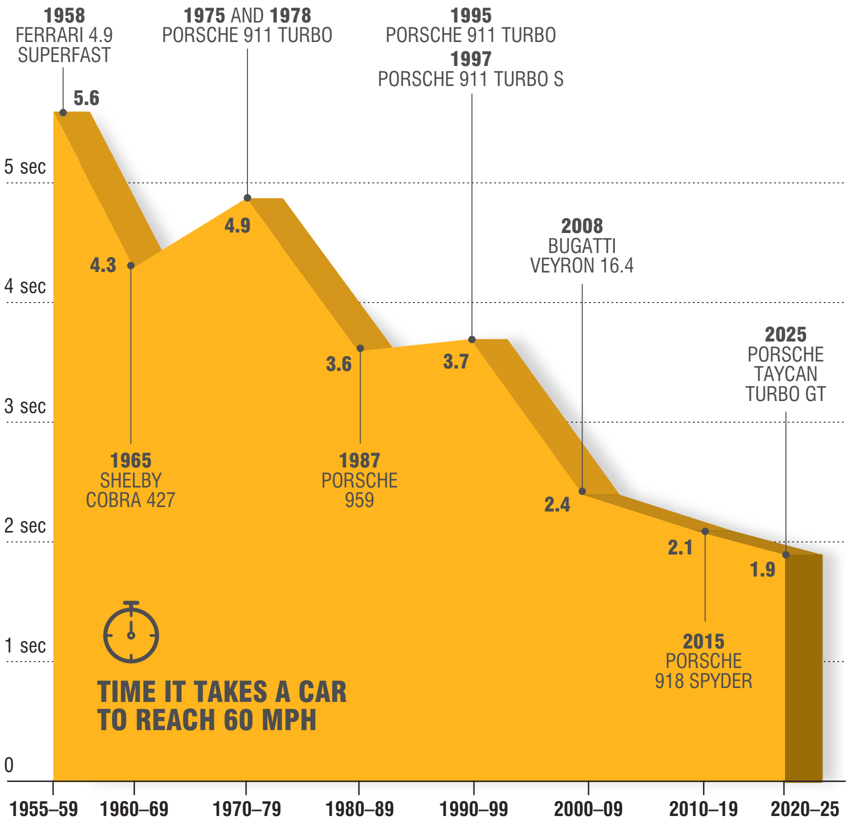
DEAD ENDS



Single-clutch automated-manual transmissions were spawned from semi-automatic transmissions that used an automatic clutch, such as the Porsche Sportomatic. In the late '90s, the promise of Ferrari's quick-shifting F1 gearbox captured attention. The idea is relatively simple: Use computer-controlled mechanical automation to engage the clutch and change gears, thus minimizing shift times and improving performance. Audi, BMW, Ford, Lamborghini, Maserati, Mercedes, Smart, and others joined Ferrari in adopting the automated manual, but the tech effectively died with the AMG One, which uses a contemporary F1 powertrain. (Econocars in other markets still use automated manuals for their relatively low development cost.) Dual-clutch automatics supplanted the automated manual by offering the same performance without the herky-jerky gearchanges at anything less than full throttle. Planetary automatics, with lockup torque converters, have also greatly improved efficiency and shift performance in the past couple of decades.

BARSTOOLS AND DREAMERS

Quantifying automotive performance is our way of keeping automotive manufacturers honest. The single most argued-on-a-barstool stat is the acceleration of a vehicle to 60 mph. We will continue to measure and discuss it, but if too many cars crack the 2.0-second barrier, we'll have to shift to needling over 100-mph acceleration just so there is more separation. In this quarter century, the quickest 60-mph time is practically half of what it was when answering machines had those little cassettes. Will an internal-combustion model ever reclaim the title of quickest to 60 mph? Unlikely, but a septuagenarian magazine can dream, right?



INFOGRAPHIC: NICOLAS RAPP

I'M ALSO 70!

The Mercedes-Benz 190SL debuted in 1955 as a more affordable 300SL. We tested a 190 in '56, and one editor said, "After living with a couple of 300SLs, I made the mistake of assuming that the 'lesser' car would be a letdown. I was wrong. The 190SL is just as exciting, in a quieter, more subtle way." Humblebrag aside, we'd rather have the inline-six 300SL, but two-thirds of that engine got the 190SL to 60 mph in 11.0 seconds.

ANGER MANAGEMENT

A picture is worth a thousand words, but it can also have consequences. That was the case in our February 1968 issue, which featured an excoriating takedown of the Opel Kadett L station wagon, a car we called "a never-ending stream of the third-rate and the underdone, a rolling potpourri of mediocrity." Automakers can usually handle criticism, but then–art director Gene Butera's decision to photograph the Opel at a junkyard proved a bridge too far for General Motors. Colorful words were exchanged, and advertising dollars shriveled up faster than our enthusiasm for the Opel Kadett.

HARDCOR

THE CHEVROLET CORVETTE HAS BEEN A CONSTANT THROUGHOUT THIS MAGAZINE'S EXISTENCE. WE BEGIN OUR CELEBRATION WITH THE MOST EXTREME VERSION YET.

70
YEARS OF
CAR AND
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BY JARED GALL / PHOTOGRAPHY BY GREG PAJO

VETTE

The $8495 Carbon Fiber Aero package's wings, dive planes, and splitter help the ZR1 make more than 1200 pounds of downforce, but the package reduces the claimed top speed from 233 to 225 mph.

IF YOU'RE THE GUARDIAN-ANGEL TYPE, you'll want to make sure yours blocks out time in their schedule before you settle into the new Corvette ZR1. You also might want to issue them earplugs because there will be decidedly blasphemous outbursts when the mighty LT7 engine conjures its full output. It would be unprofessional to admit that the ZR1's specs are terrifying. But 1064 horsepower and 828 pound-feet of torque are certainly intimidating.

Twenty years ago, the Bugatti Veyron inaugurated the four-digit club and charged more than a million bucks for admission. Generating the Bug's 1001 horsepower took 16 cylinders, 8.0 liters, and four turbos; putting it to the ground required all-wheel drive and custom-made tires that cost $25,000 a set. The ZR1 has a twin-turbocharged 5.5-liter V-8 and routes its torque solely to the rear axle. The Michelin Pilot Sport Cup 2Rs on the car we tested aren't cheap, but the replacement cost basically amounts to the sales tax on the Veyron's rubber. Here is a comprehensive list of more powerful regular-production cars that are rear-wheel drive:

The list of quicker rear-drive cars is also nonexistent. The ZR1 blitzes to 60 mph in 2.2 seconds, to 100 mph in 4.5, and through the quarter-mile in 9.5 at 149 mph. Within this magazine's

HIGHS: CAN BREAK ANY SPEED LIMIT IN THE COUNTRY IN UNDER 3.8 SECONDS, IS LESS EAGER TO HUMILIATE YOU THAN YOU MIGHT THINK. **LOW:** UNCORKING IT ANYWHERE OTHER THAN A RACETRACK IS A SERIOUSLY BAD IDEA. **VERDICT:** EVEN AT $205,000, THE CORVETTE REMAINS AN UNPARALLELED PERFORMANCE BARGAIN.

history was an era in which numbers like these were the exclusive domain of slingshot dragsters with the life expectancy of a hand grenade—and a similar kill radius. But here they are, generated by a regular-production Chevrolet covered by a five-year/60,000-mile powertrain warranty.

Set up properly, the ZR1 launches with shockingly little wheelspin for something with such monumental output and only two driven wheels—though the rear tires are 13.6 inches wide and are very nearly slicks. Chevy sent us instructions on how to set up launch control for optimal acceleration. Step one: Perform hellacious burnout to clean the tires and bring them up to temperature. (Skip this step and the ZR1 will light up its tires and swing sideways if you floor it even at 70 mph on the freeway. This is not recommended unless you are hopelessly constipated.) Step two: Use the thumbwheel on the right steering-wheel spoke to experiment with different launch rpm and tire-slip allowances. Step three: You brushed up on what muscles fighter pilots flex to prevent blackouts during high-g maneuvers, right? Because the ZR1 sustains more than 1.00 g of acceleration until 85 mph.

With launch control engaged, the engine revs to your chosen rpm like any other supercar but then stutters as Chevy's antilag system steps in to

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THEN AND NOW

Indianapolis 500 pole position in 1955:

140.045 mph

JERRY HOYT

Indianapolis 500 pole position in 2025:

232.790 mph

ROBERT SHWARTZMAN

BORN AGAIN
We took delivery of our long-term 1985 Corvette at the factory, with Rich Ceppos watching it roll off the assembly line. It turns out, he saw the car's second birth. Near the end of the test, which appeared in our February 1987 issue, we discovered work orders, including one for a transmission swap that had occurred in the car's first 250 miles. The Corvette was then reinserted into the assembly line. Chevy never copped to the skulduggery.

ENGINE ROOM

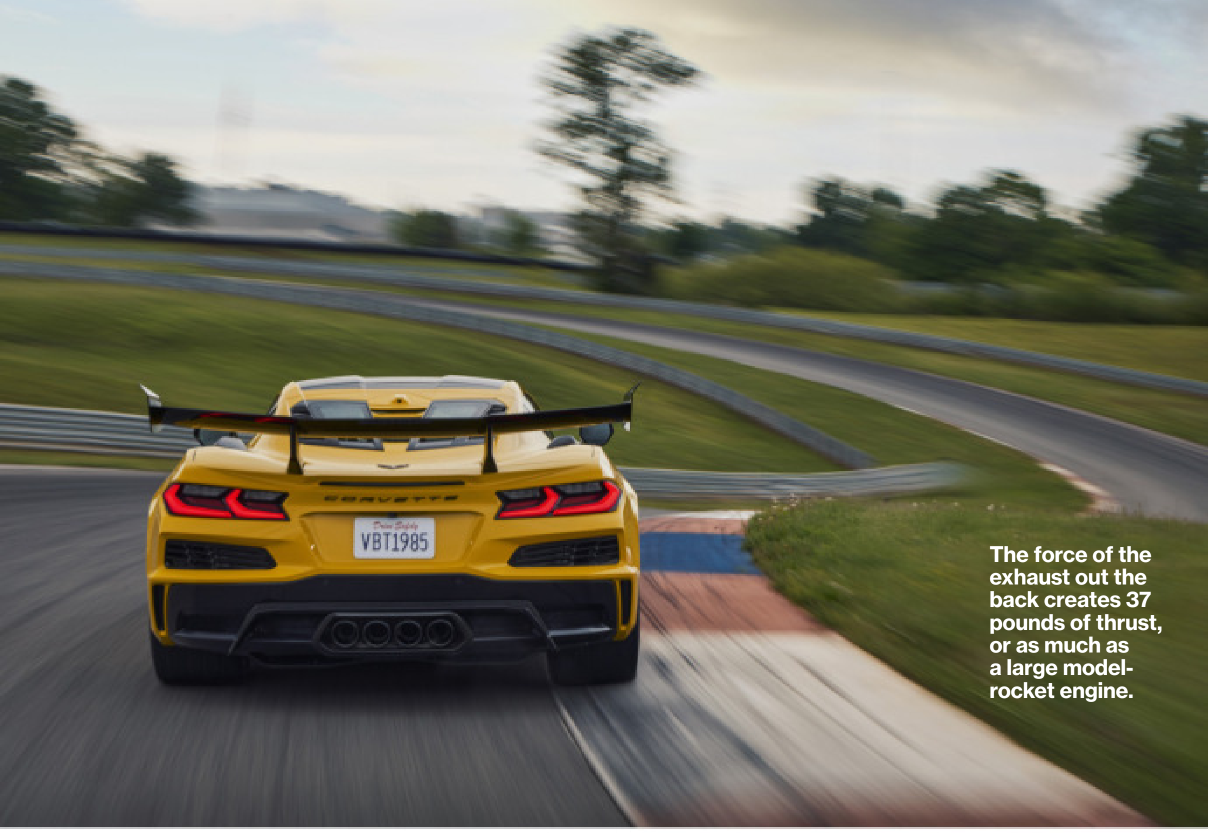
THE GREAT EIGHT

The ZR1's megapowerful Gemini V-8 democratizes four-digit horsepower.

Born from the same clean-sheet, dual-overhead-cam 5.5-liter engine architecture as the Z06's LT6 screamer, the ZR1 adds nearly 400 horses by way of two single-scroll turbochargers. Each makes up to 26.1 psi of boost, and they are integrated into the exhaust manifolds to quicken responsiveness. Changes to the cylinder heads and pistons create a larger combustion volume and lower the compression ratio to 9.8:1 from the Z06's 12.5:1, and the LT7 adds a seventh scavenge pump to the dry-sump oiling system. While the flat-plane crank remains, the ZR1's redline drops to 8000 rpm from the Z06's 8500 rpm. To handle the incredible thirst for fuel, the ZR1 adds port injection in addition to the direct fueling inherited from the LT6. Its 16 injectors can drain the ZR1's 18.5-gallon tank in just over nine minutes when the LT7 is running at full honk. Forced induction eliminates the need for the LT6's torque-boosting variable crossover intake. The ZR1's separate-breathing banks create so much twist—over 800 pound-feet from 3000 to 6500 rpm—that the bolt pattern of the rear hubs expands by 30 millimeters to cope with it. Wow.

—*Dave VanderWerp*

PHOTOGRAPH BY MICHAEL SIMARI



The force of the exhaust out the back creates 37 pounds of thrust, or as much as a large model-rocket engine.

allow the turbos to build a few pounds of boost. When you lift off the brake, the ZR1 hooks up hard enough to elicit an unintentional grunt, and your face gets all tingly as the blood rushes to the back of your head. (In the time it took you to read that sentence, the ZR1 has already hit 130 mph.) You might feel tempted to touch the back of your skull to see if you've developed a wind fairing, but it's best to keep both hands on the wheel since you're now doing about 170 mph. The eight-speed dual-clutch automatic shifts so quickly that you only notice it working at all because the yowling flat-plane-crank V-8 and whooshing turbochargers drop in pitch—but only momentarily. (Oops, you're going 200 mph. This is frowned upon in most jurisdictions.) Not that anyone is recommending you try, but Chevrolet says the ZR1 will accelerate from 80 to 200 mph and brake back down to 80 in just 24.5 seconds. Based on our testing, it should need only about a mile and a quarter to do so. But you should not do so.

The car we tested had a carbon-fiber surfboard bolted to its tail, which, together with the other Carbon Fiber Aero package components, generates over 1200 pounds of downforce at top speed but is already slowing the car by a few mph in the quarter-mile, according to Chevy's engineers. You won't miss those mph. It's not until it shifts into fifth around 130 mph that the ZR1 at wide-open throttle stays in a gear longer than three seconds. The scenery blurs relentlessly faster—but focus, because you should probably get on the brakes soon. They are deliciously meaty. Like the tires, they need to build up some heat before they'll do their best work. Pedal pressure, more so than travel, determines how hard the six-piston front and four-piston rear binders grab, but under a hearty stomp, they haul the ZR1 to a stop from 70 mph in a mere 140 feet.

The ZR1's braking and 1.13-g skidpad figures are in a close dance with the Corvette Z06's performance, as expected. Usually, when an automaker introduces a new model with almost 400 horsepower more than an existing one, it tends to be, you know, a whole new car. The ZR1 is more than just a Z06 with a pair of 76-mm turbos, but not much more. The LT7 V-8 shares its naturally aspirated sibling's block but features unique heads and cams, a different (but still flat-plane) crankshaft, and port fuel injection in addition to the LT6's direct injection—the higher flow volume being necessary to generate that immense power. (In a day of track lapping, we achieved 4 mpg. With a full tank, the car projected only 84 miles until empty.) Redline falls from 8500 to 8000 rpm, as the turbos provide so much oomph that there's no need to spin the crank any faster. The eight-speed dual-clutch automatic transmission gets beefed up with sturdier input and output shafts and wider gears.

Outside the engine room, the differences between the Corvette Z cars are even fewer and mostly concerned with guiding air where it is needed. The frunk is gone, replaced by an intercooler under a vented hood that also increases front downforce. The trailing edges of the Z06's signature wishbone side air intakes are repurposed into ducts that cool the rear brakes. And carbon-fiber epaulets sprout from the ZR1's shoulders, feeding cold intake air to the engine. A

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TESTING, TESTING, ONE, TWO . . .
On more than one occasion, *C/D* acceleration-test results have uncovered instances of overstated engine power, resulting in automaker recalls.

Ford claimed the 1999 Mustang SVT Cobra made 320 horsepower, or 15 more than the 1998 model, but it accelerated slower in both coupe and convertible forms when we tested them for our April and August issues in 1999. Ford eventually admitted that some engines left the factory with improperly finished intakes and restrictive mufflers, resulting in lower output.

Mazda allegedly added 15 horses to the 2001 Miata, but after our testing in February of that year, it also had to eat crow. Mazda offered to buy back any Miata sold before the 155-hp claim was removed from advertising, and anyone who wanted to keep theirs got a $500 debit card.

Funny how no one ever gets upset when we say an engine makes *more* power than advertised.

carbon-fiber roof and carbon-ceramic brakes are also standard on the ZR1. A new manufacturing process incorporating longer fibers keeps the 15.7-inch front and 15.4-inch rear rotors cooler on the track and improves longevity compared with regular carbon-ceramics. They're similar to the brake rotors McLaren charges $15,523 for on the 750S.

The car we tested is as close to a no-frills performance spec as the ZR1 can get. In the base 1LZ trim, it forgoes the 3LZ's nappa leather upholstery, heated and ventilated seats, and 14-speaker Bose Performance Series sound system, but ours boasted the $13,995 carbon-fiber wheels that cut unsprung weight by a claimed 42.8 pounds. The ZTK Track Performance package includes stiffer springs and the ultrasticky Pilot Sport Cup 2R tires, which have little more than a couple of circumferential grooves to make them street legal. Technically, ZTK only costs $1500, but it's not available unless you've already spec'd the $8495 Carbon Fiber Aero pack, which includes the mondo rear wing, a tall Gurney flap on the leading edge of the hood vent, and dive planes. Throw in a few odds and ends, and our ZR1 landed at $205,265.

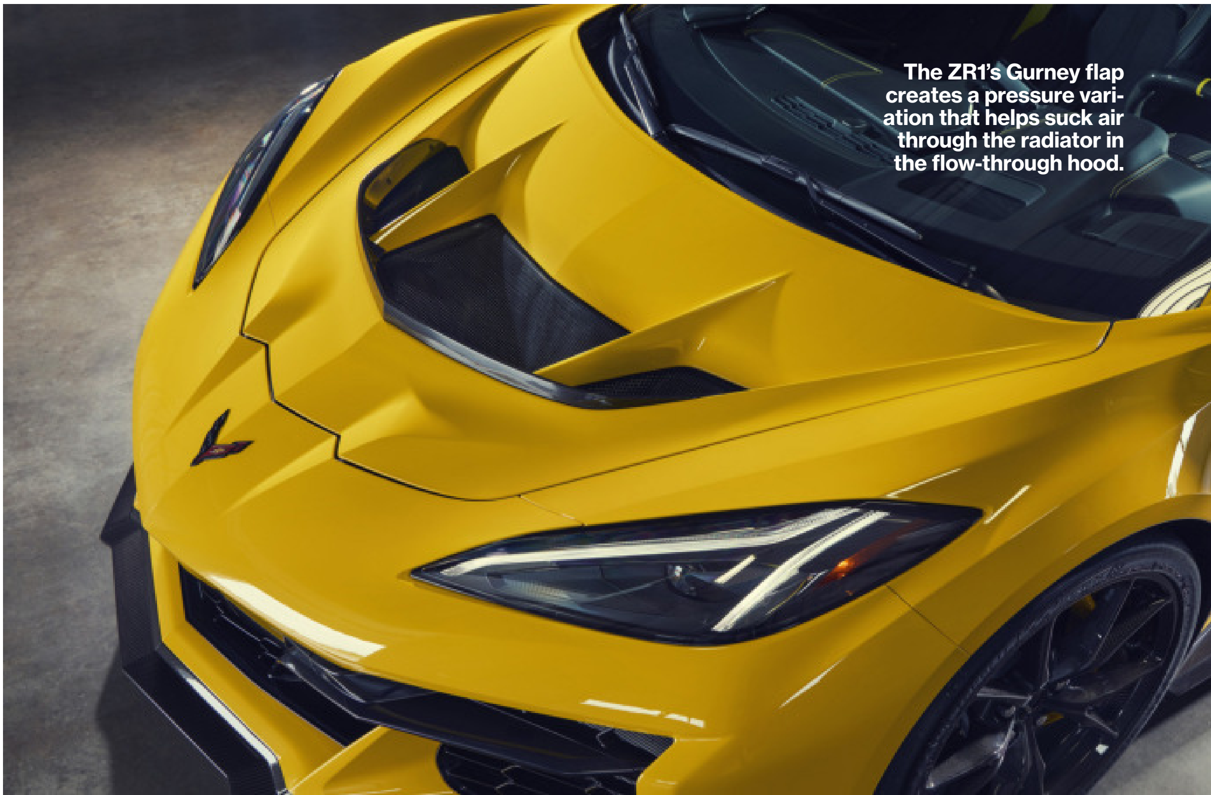
Sports cars with more than 400 or so horsepower need a track to be fully appreciated. Cars with 1000 horsepower? Those need a special subset of tracks, the longer the better. We had GingerMan Raceway in South Haven, Michigan. Its 2.1 miles with 11 turns make good use of the region's few variations in terrain, but nowhere do they allow for

MUSEUM PIECES

INTO HISTORY

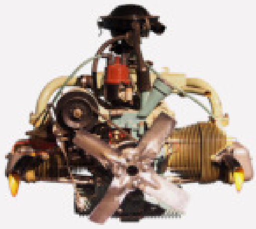
The National Corvette Museum and its Motorsports Park sit in the shadow of the Corvette factory in Bowling Green, Kentucky. The museum opened in 1994 and has an amazing collection of Corvettes, although the first ZR-1, a package on the 1970–72 C3, is missing. So, for our photo shoot for the cover of this issue, a '71 Stingray LT1 reps the C3 generation. The C1, a '57 with its famous scalloped body, had a small-block V-8, which launched in the original body for '55. The museum also supplied a '63 split-window, which inspired the C8's rear decklid. The C4 ZR-1 and the C6 ZR1 are the red ones; the C7 ZR1 is orange. A yellow Z06 represents the raciest C5 offering. The track is very photogenic, but we have a feeling we'd get a bill if we wanted to shoot, say, a Porsche.
—K.C. Colwell

SNAPSHOTS BY DARIN JOHNSON



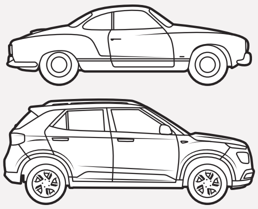
The ZR1's Gurney flap creates a pressure variation that helps suck air through the radiator in the flow-through hood.

70 YEARS OF CAR AND DRIVER



SLOWEST TOP SPEED WE'VE OBSERVED IN A CAR
We tested a two-cylinder DAF 600 with a top speed of 53 mph for our July 1959 issue.

FASTEST WE'VE DRIVEN A PRODUCTION CAR
Csaba Csere reached 253 mph in the 2005 Bugatti Veyron 16.4 at the Ehra-Lessien proving ground in Germany for the November 2005 issue.



IF THE SHOE FITS
The smallest tires available on a new car today are the 185/65R-15s on the Hyundai Venue SE. Funny enough, their 24.5-inch overall diameter is roughly an inch smaller than the 5.60-by-15 bias-plies that came on the 1956 Volkswagen Karmann Ghia.

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more than eight or nine seconds of wide-open throttle. The longest straightaway tests the ZR1 driver's resolve with a little kink that coincides with a slight rise that the Corvette crests at upwards of 100 mph. It's odd to be leery of full throttle even above 100 mph, but the ZR1 is still pulling so hard at that speed that it accelerates from 100 to 160 in about the same time as it took an early C4 Corvette to reach 60 mph.

Prudence is supplied wholly by the driver, and they have already shown an aversion to it by choosing a car that will go from zero to 150 mph in less than 10 seconds. But it dictates a few cautious warm-up laps. Even driving seven-tenths or so for some scouting, the ZR1 is so fast that we're halfway through our third lap before we realize we're not even pushing the car yet. How much more speed is there in that bottom bit of pedal travel?

Great googly moogly. Just as Chevrolet recommends a burnout to bring the Pilot Sport Cup 2Rs up to temp for the quickest acceleration, you'll need a couple of laps to get them warm enough for maximum grip on track. But with some heat in them, the tires have tremendous stick. And if

OPINION

COUNTERPOINTS

I didn't think I could feel more powerful than I do when I skip an advertisement on YouTube, but that was before I drove the ZR1. I am the Greek god Apollo. My winged plastic chariot has 1064 horsepower and needs to go 150 mph. I am giddy. I am . . . wait, is that Ford Explorer a state trooper? No, I see roof rails. Good to go. Accelerator, meet floor. The ZR1 flies by a Subaru Outback so quickly that I'm pretty sure I can speak Greek now. *Opa! Opa!* I try launch control. Even with each rear tire facing 532 horsepower, the Vette hits 30 mph as quickly as a Porsche 911 Turbo S. As the god of music, I must say that the V-8 sounds better outside than inside. Before the Corvette faithful ask, no, I have not grown donkey ears.
—Tony Quiroga

On public roads, with cold tires, the ZR1 is diabolical. Note to future leavers of Cars & Coffee events: The boosted V-8 overpowers the rear rubber so forcefully and instantaneously that stability control is the only thing keeping you out of the trees. But within the relative safety of GingerMan Raceway, I decided to face the beast fully unleashed, switching off its excellent driver aids. Much to my astonishment, not only can the Cup 2R tires, once warm, take way more power than expected, but even when you overcook their high limits, they let go gracefully. Surpassing lofty milestones of 1000 horsepower and 230 mph is certainly impressive, but even more so, this insanely fast Corvette is (relatively) tractable. It's a freak on the street but a road-course savant.
—Dave VanderWerp

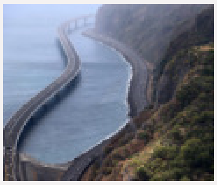
The engine gets the headlines for good reason, but this car's chassis is just as intoxicating. It's a bit softer than the Z06—and better for it—while still clearly on the firm side of what a Lexus ES owner thinks is perfect. Back-road impacts in the ZR1 are rounded off just enough to brew a piping-hot carafe of driver confidence. Drink up. Embrace the warmth. The heavy steering leaves nothing open to interpretation. Suddenly I'm way too comfortable driving way too fast on way too narrow roads in a machine making way too much noise. And sorry to the Z06 owner who tried to flag me down and talk shop. I was late for dinner because I had spent too much time on good roads. I'm addicted.
—K.C. Colwell

ILLUSTRATION BY CHRIS PHILPOT; HIGHWAYS: GETTY IMAGES

Left: Like the 1989 ZR1, the 2025 will get a one-year interior. Next year, all Corvettes get larger screens and lose the great wall of HVAC controls. Below: After testing, which required a mid-session refuel, we pumped 12.9 gallons to add 50 miles of predicted range.

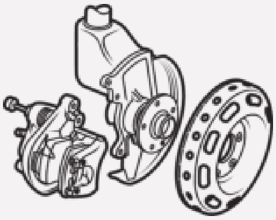
Trip Computer
Fuel Economy
Last 50 mi
Average 4.1 mpg
Best 21.3 mpg
88 mi

70
YEARS OF
CAR AND DRIVER



DOLLARS PER MILE

Highways are like the universe: Both continue to expand. Though there are many highway projects around the globe that have been recently completed, are in development, or are planned, none is more expensive than the French island of Réunion's Nouvelle Route du Littoral (French for "new coastal road"). Though parts of the route are operational, the entirety of it is projected to be completed before the end of the decade. The cost to build the highway might ultimately exceed $2 billion, or more than $256 million per mile.



DEAD ENDS

To increase the stopping power for Audi's 1990 V8 sedan without upping the 15-inch wheel size, the company fitted the front axle with brake calipers that pinched a funky-looking 12.2-inch rotor from the inside, as opposed to the industry norm of the outside. This "UFO rotor" design benefited from a larger swept area that helped achieve performance goals. But the brake-hub design wouldn't last a decade. Low-profile tires and larger-diameter wheels proliferated in the '90s, effectively eliminating the need for the higher-cost UFOs.

70 YEARS OF CAR AND DRIVER

THE NUMBERS

CORVETTE COVER APPEARANCES:

117

CAR AND DRIVER
PREPARE FOR TAKEOFF
Corvette ZR1 is Ready to Launch!
TOP-SPEED RUN AT THE TEXAS MILE AND FIRST FULL TEST NUMBERS

ANGER MANAGEMENT
When we took the C7 Corvette ZR1 to the Texas Mile in 2018, we suffered what medical professionals call a brain fart. In an attempt to reduce aero drag and beat the 183.3-mph run we previously made, we removed the rear wing. This shifted the balance of the car dangerously forward. We ran unscathed, but social-media pics had PRs upset that customers might run the ZR1 without a wing, so we didn't print any photos of it.

The ZR1 marks a return of the split-window Corvette. Below: Carbon-ceramic rotors feature long-strand carbon fibers to decrease fade.

you're expecting a 1064-hp twin-turbocharged 5.5-liter to be laggy, you're wrong. The wastegates close when you jump off the throttle, keeping the turbos spooled for immediate response when you get back on the accelerator.

Corner after corner, we gave it more gas earlier and earlier, each time bracing for disaster. Mostly, all that happened is we lapped faster. The ZR1 will accept heavy throttle inputs far earlier than your sense of self-preservation is comfortable with. Just keep in mind that idiot-proof and 1064 horsepower are mutually exclusive concepts. Roll in easy, and you'll probably survive. Chevy already offers Corvette buyers a substantial discount on a two-day performance driving school; it wouldn't be a bad idea to make the program mandatory before owners can take delivery of their ZR1.

On the road, the ZTK suspension feels only marginally more aggressive than other Corvettes'. Its springs are stiffer, but the magnetorheological dampers remain and allow the car to relax somewhat. In its heaviest setting, the steering is wonderfully weighty and direct, although with the alignment optimized for track use, it's so heavy that crossing the dotted line turns lane changes into brief arm-wrestling matches. There's also little notice through the wheel that you've exceeded the front tires' grip. It's up to your eyes and butt to notice the car is no longer responding to steering inputs.

The ZR1's greatest drawback is outward visibility. Anywhere but forward, the view is atrocious. Blind-spot monitors are not even available on the base 1LZ trim level; buyers wanting them have to throw down another $11,000 for the 3LZ. And while the C8 ZR1 marks the return of the fabled split rear window to the Corvette's greenhouse, it's a perfect reminder of why such a memorable styling element got dumped in the first place. The central spine is louvered to improve visibility, but that means there are two central spines with louvers between them. The glass flanking this carbon-fiber ribcage is tinted but does not reach all the way to the bottom of the louvers (allowing hot air to escape the engine bay). Glance at the rearview mirror, and you're peeping through a kaleidoscope of shapes and opacities with all the clarity of a dirty, beveled-glass mail slot. There is a rearview camera, but on cars with the Carbon Fiber Aero package, that just gives the driver a good look at the rear wing and the pavement for maybe 20 feet behind the car.

And while the ZR1's various drive modes and Performance Traction Management (PTM) set-

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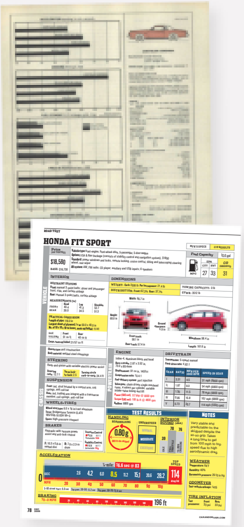


SEXY SPECS
Road tests receive our most detailed specifications and test data, the presentation of which has evolved over the years. Early issues featured subjective assessments. From the 1960s through the ’90s, we used clever bar-graph imagery, and then we turned to spider charts and the current “roller coaster.” For those who remember the highlighter-yellow phase that took hold for a while starting in 2006, please accept our apologies.

THE TECH

CODE BRAKERS

To get the ZR1 to its 233-mph top speed, Corvette engineers had to play a few tricks.

Even with 1064 horsepower to work with, the ZR1 team had to overcome a couple of hurdles to reach their top-speed goal.

The first problem was that the engine would engage its rev limiter as it crept closer to redline in sixth gear, making 230 mph impossible. The powertrain team had to allow an extra 100 rpm, or about 3 or 4 mph of bandwidth, in sixth gear only. The extra revs are unlocked exclusively in Top Speed mode, which also has a workaround for the flip side of reaching top speed: safely stopping.

In the ZR1, the Bosch-based PTM software that manages stability control and ABS is limited by its code to 223 mph (99.9 m/s). Going faster means doing without electronic aids. Top Speed mode lacks stability control, but Chevy engineers spent a year developing and adding a second ABS for speeds above 223 mph.

Global vehicle performance manager Aaron Link tested the ABS calibration from 233 mph. Drivers who’ve gone 200 are in a small club; those who’ve done a panic stop from that speed are in an even smaller one. Link reported good stability and that it takes 1500 feet to stop, give or take a skid mark. He did it twice.

—K.C. Colwell

tings are absolutely essential to making the car approachable and keeping its driver alive, navigating them is needlessly complex. Accessing launch control requires twisting the drive-mode knob to Track, double-pressing the stability-control button—but not too quickly (seriously)—to activate PTM, then scrolling through menus with the thumbwheel on the right steering-wheel spoke. Don’t forget to rub your head while patting your belly and reciting *Ulysses* backward. Then smash the brake pedal, stomp on the gas, and go. Other supercars require a lot less planning.

The ZR1’s competition might be easier to use, but few cars are faster. Chevy has already collected a stack of records from lapping tracks around the country in the ZR1, including Virginia International Raceway, home of our annual Lightning Lap competition. There, the record it broke had been held since 2019 by our own executive editor K.C. Colwell in a $982,816 McLaren Senna.

One could argue that the last-generation ZR1’s greatest achievement was proving to Corvette loyalists—and GM brass—the necessity of the transition to a mid-engine layout. Even with 105 more horsepower than a C7 Z06, the C7 ZR1 was only marginally faster. This ZR1 validates the decision to go mid-engine and opens a comfortable gap over its naturally aspirated sibling by ably applying stratospheric power to the ground. And in the proud Corvette tradition, its performance embarrasses cars that cost many times as much—only now, that truism targets the sort of car other manufacturers make you apply to purchase. It has never been more apt to call the Corvette a world-beater. ▪

2025 Chevrolet Corvette ZR1

PRICE

As Tested	$205,265
Base	$178,195

Vehicle Type: mid-engine, rear-wheel-drive, 2-passenger, 2-door targa

Options: carbon-fiber wheels, $13,995; ZR1 Carbon Fiber Aero package, $8495; ZTK Performance package, $1500; Competition sport bucket seats, $995; body-colored split-window trim, $995; microsuede-wrapped steering wheel, $695; black exhaust tips, $395

Infotainment: 8.0-inch touchscreen; wireless Android Auto and Apple CarPlay; satellite radio (3 months included); minijack, 1 USB, 1 USB-C, and Bluetooth inputs; Wi-Fi hotspot (3 months included); Bose Premium stereo, 10 speakers

ENGINE

twin-turbocharged and intercooled V-8, aluminum block and heads

Bore x Stroke .... 4.10 x 3.15 in, 104.3 x 80.0 mm

Displacement .... 333 in^3, 5463 cm^3

Compression Ratio 9.8:1

Fuel Delivery: port and direct injection

Turbocharger: BorgWarner

Maximum Boost Pressure .... 19.5 psi

Valve Gear: double overhead cams, 4 valves per cylinder, variable intake- and exhaust-valve timing

Redline/Fuel Cutoff .... 8000/8000 rpm

Power .... 1064 hp @ 7000 rpm

Torque .... 828 lb-ft @ 6000 rpm

DRIVETRAIN

Transmission: 8-speed dual-clutch automatic

Final-Drive Ratio ... 5.56:1, electronically controlled limited-slip differential

GEAR	RATIO	MPH PER 1000 RPM	MAX SPEED IN GEAR (rpm)
❶	2.91	5.0	40 mph (8000)
❷	1.76	8.2	66 mph (8000)
❸	1.22	11.8	94 mph (8000)
❹	0.88	16.4	131 mph (8000)
❺	0.65	22.2	178 mph (8000)
❻	0.51	28.3	225 mph (7900)
❼	0.40	36.0	
❽	0.33	43.7	

CHASSIS

aluminum spaceframe

Body Material: sheet-molded composite and carbon-fiber-reinforced plastic

STEERING

rack-and-pinion with variable ratio and variable electric power assist

Ratio 15.7:1

Turns Lock-to-Lock 2.5

Turning Circle Curb-to-Curb .... 38.0 ft

SUSPENSION

F: ind; unequal-length control arms; coil springs; 3-position electronically controlled dampers; anti-roll bar

R: ind; unequal-length control arms; coil springs; 3-position electronically controlled dampers; anti-roll bar

BRAKES

F: 15.7 x 1.5-in vented, cross-drilled carbon-ceramic disc, 6-piston fixed caliper

R: 15.4 x 1.3-in vented, cross-drilled carbon-ceramic disc, 4-piston fixed caliper

Stability Control: fully defeatable, traction off, competition modes, launch control

WHEELS AND TIRES

Wheels: carbon-fiber-reinforced plastic

F: 10.0 x 20 in **R:** 13.0 x 21 in

Tires: Michelin Pilot Sport Cup 2R ZP **F:** 275/30ZR-20 (97Y) TPC **R:** 345/25ZR-21 (104Y) TPC

COMPETITORS

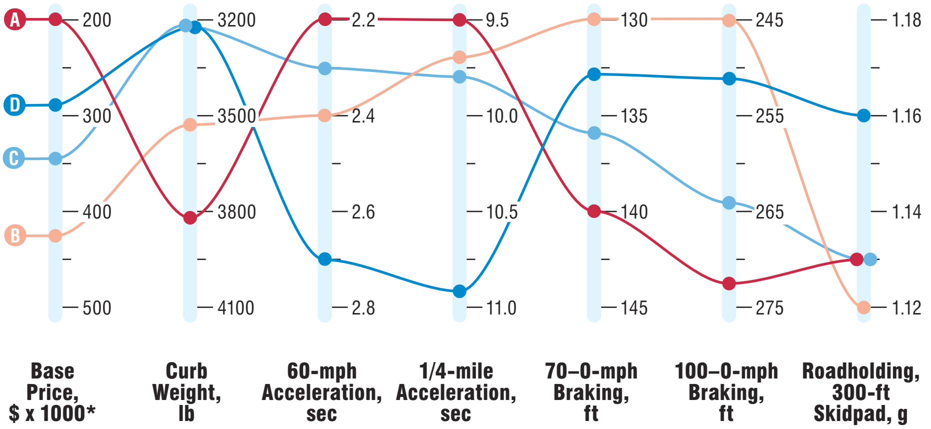
Cue up some Lee Greenwood and crank it up loud.

Ⓐ **Chevrolet Corvette ZR1**
1064-hp 5.5-L V-8, 8-sp auto

Ⓑ **Ferrari 296GTB**
3.0-L V-6 + motor, 819-hp; 8-sp auto

Ⓒ **McLaren 750S**
740-hp 4.0-L V-8, 7-sp auto

Ⓓ **Porsche 911 GT3 RS**
518-hp 4.0-L flat-6, 7-sp auto



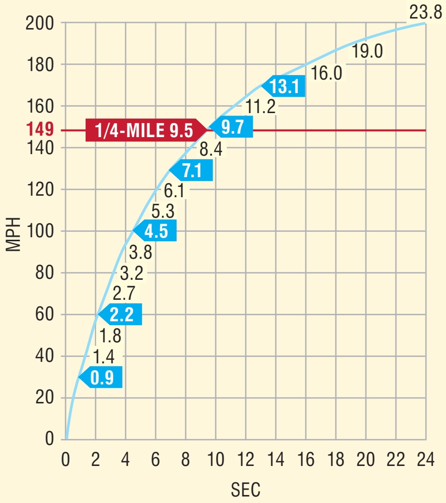
*Includes performance-enhancing options.

DIMENSIONS

Wheelbase	107.2 in
Length	185.9 in
Width	79.7 in
Height	48.6 in
Front Track	66.3 in
Rear Track	66.1 in
Ground Clearance	5.3 in
Passenger Volume	51 ft^3
Trunk Volume	9 ft^3

TEST RESULTS

Acceleration



Results in graph omit 1-ft rollout of 0.2 sec.

Rolling Start, 5–60 mph	3.0 sec
Top Gear, 30–50 mph	1.8 sec
Top Gear, 50–70 mph	2.0 sec
Top Speed (mfr claim)	225 mph

Handling

Roadholding, 300-ft Skidpad .... 1.13 g
Understeer: minimal

Braking

70–0 mph	140 ft
100–0 mph	273 ft

Fade: none

Weight

Curb	3831 lb
Per Horsepower	3.6 lb
Distribution, F/R	38.7/61.3%

Fuel

Capacity	18.5 gal
Octane	93

***C/D* Fuel Economy**

Observed, Track/Street .... 4/13 mpg

EPA Fuel Economy

Comb/City/Hwy .... 14/12/18 mpg

Interior Sound Level

Idle	52 dBA
Full Throttle	98 dBA
70-mph Cruising	76 dBA

Tested by David Beard in Chelsea, MI

70
YEARS OF
CAR AND
DRIVER

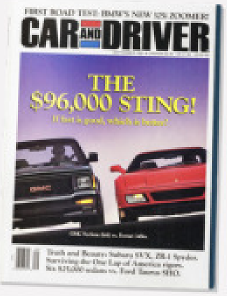
The Irreverence

FUN, PROVOCATIVE, DARING, AND NEVER BORING.

THERE'S A LOT OF LORE around the GTO-versus-GTO test from *Car and Driver*'s March 1964 issue. At the time, pitting a Pontiac against a Ferrari with no Ferrari present, let alone the idea of comparing the two, was enough to send tweed caps spinning and upset the stringback-leather-glove club that worshipped at the altar of Enzo. It's also the story that set us apart from the too serious, too starched, too conservative, too dogmatic folks at *Road & Track* and established the ingenuity, silliness, and intelligence that remain hallmarks of *C/D* to this day.

While we're willing to do things others wouldn't dare to, we try to do them without churlishness or callowness. Toppling expectations and beliefs, poking giants, and tampering with sacrosanct ideas is important work. It's healthy to challenge conventional wisdom and not get swept up in aggrandizing mythology. Not everyone appreciates it, and we can't reach everybody, so we print the best of their often grammar-challenged letters to the editor.

Seriousness and certainty are the enemies of creativity. That's why, in 1989, we compared a Chevy Beretta with a Beretta handgun and why, in 1992, a Mustang convertible took on a mustang equine. In this section, we've looked to GTO versus GTO and other giant-killing tests as inspiration for pitting a 2025 Jeep Wrangler—a solid-axle, recirculating-ball-steering, body-on-frame horseshoe crab—against a 1968 Pontiac GTO. The experiment challenges testing director Dave VanderWerp's long-held theory that today's worst-handling vehicle is better than the venerated 1960s muscle car.



PRANCING PICKUP
In the spirit of the original GTO-versus-GTO story, we compared a Ferrari 348ts with a pickup truck for our September 1991 issue. The GMC Syclone's 5.3-second time to 60 and 14.1-second quarter beat the Ferrari's times, and the GMC outbraked the Ferrari from 70 mph—it also aced the beer-run test. The pickup could haul eight half-barrels while the Italian could carry just a pony keg in the passenger's seat. Gun racks fit in both, but only the GMC was photographed with a Winchester. The cover declared this matchup "The $96,000 Sting!"

OUT OF THE TOOLBOX
In a world before scan tools and electronic engine timing, you used a stroboscope. This instrument connected to the first cylinder's spark-plug wire in a running car, and a strobe light isolated the engine's timing marks on the flywheel or crank pulley, showing spark timing in relation to piston position. Need to make an adjustment? Turn the distributor and then watch the strobe light reveal the change.

TIMING LIGHT: MICHAEL SIMARI; BEATER ILLUSTRATION: BRETT AFFRUNTI

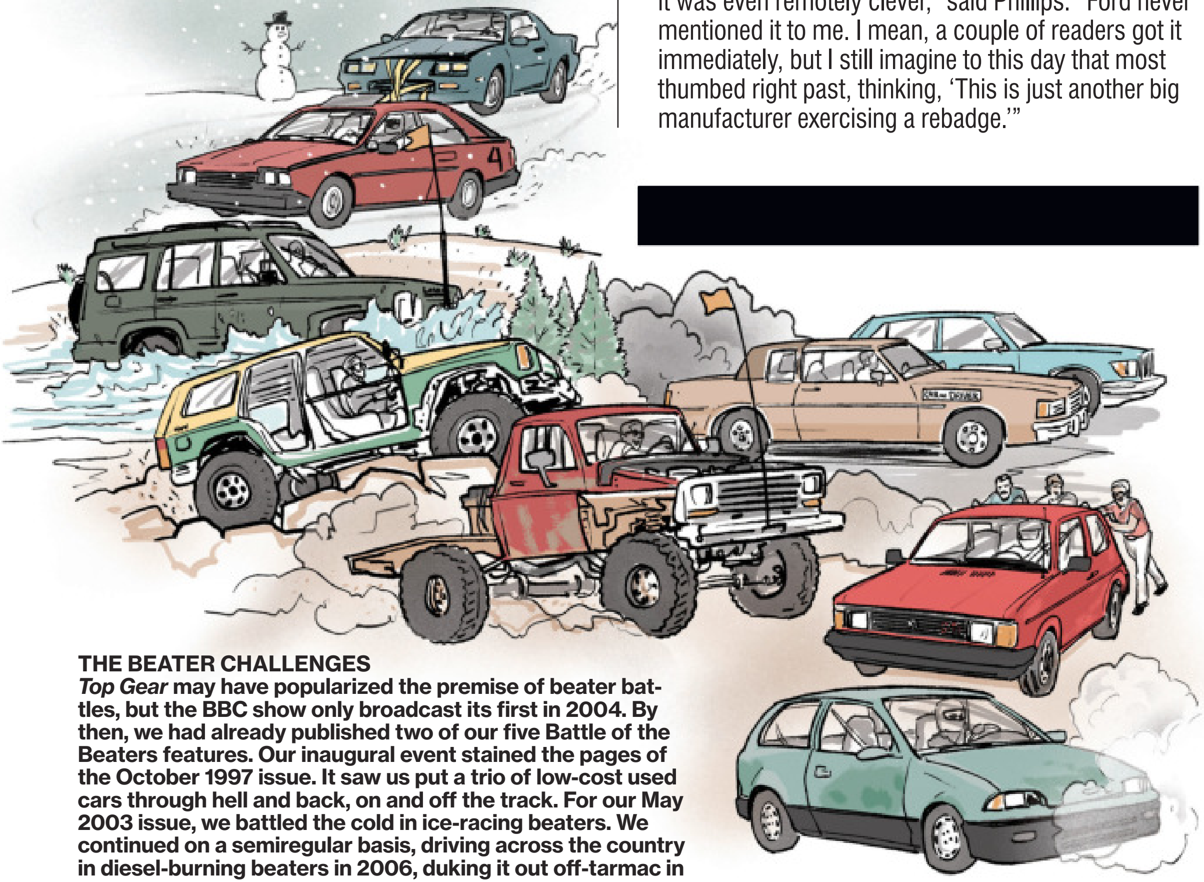
DEBUTANTE ’BALL
Brock Yates had a bone to pick. In response to the Highway Safety Act of 1970, he saw it as his duty to prove a good driver was the key to a safe vehicle, not 5-mph bumpers or 55-mph speed limits (both of which would take effect a few years later). On May 3, 1971, Yates and a trio of cronies set out to drive as quickly as possible from New York City to Los Angeles in a Dodge van. After 40 hours and 51 minutes, they arrived in L.A. Four more Cannonball Baker Sea-to-Shining-Sea Memorial Trophy Dashes took place in the ’70s. Yates’s act of civil disobedience inspired plenty of imitators and multiple films, including *The Cannonball Run*, written by Yates himself.

FUGAZI FUTURA

In a *Car and Driver* “exclusive,” John Phillips got behind the wheel of a reborn Ford Futura wagon for our June 2006 issue. A scoop he managed by, well, making it up. With the aid of photographer (and Photoshop guru) Tom Drew, Phillips brought the nonexistent Futura to life. But of all the options available, why revive the Futura? As Phillips put it, “It could exist, in theory. But I wanted readers perhaps to read it twice and ask, ‘What’s going on here? Isn’t this a little weird?’”

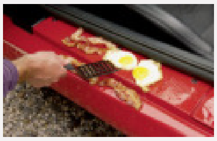
Phillips played it straight, penning copy that skews toward Monty Python instead of the Three Stooges. It’s absurd, but subtly so. “I always felt the text should read credibly—I couldn’t go over the top with bogus claims that would give it away on the first page.”

Phillips’s subtle absurdity meant the gag went largely unnoticed upon publication. “I was shocked at how few people mentioned it or got the joke or thought it was even remotely clever,” said Phillips. “Ford never mentioned it to me. I mean, a couple of readers got it immediately, but I still imagine to this day that most thumbed right past, thinking, ‘This is just another big manufacturer exercising a rebadge.’”



THE BEATER CHALLENGES
***Top Gear* may have popularized the premise of beater battles, but the BBC show only broadcast its first in 2004. By then, we had already published two of our five Battle of the Beaters features. Our inaugural event stained the pages of the October 1997 issue. It saw us put a trio of low-cost used cars through hell and back, on and off the track. For our May 2003 issue, we battled the cold in ice-racing beaters. We continued on a semiregular basis, driving across the country in diesel-burning beaters in 2006, duking it out off-tarmac in off-road beaters in 2016, and road tripping and rock hopping a quartet of battered Geo Metros in 2018.**

I’M ALSO 70!
Volvo, the safety-conscious inventor of the three-point seatbelt, pioneer of the oxygen sensor, and occasional dabbler in turbocharged performance cars shaped like bricks, is celebrating its 70th year in the United States. Volvo sold 26 PV444s in the U.S. in 1955 and has gone on to sell more than 5 million vehicles here since—some of which are produced at its assembly plant in Ridgeville, South Carolina, and all of which have had some of the most comfortable seats in automobiledom.



ANGER MANAGEMENT
When the long-awaited second-generation Dodge Viper was tested for the November 2002 issue, the V-10’s side exhaust made the footwell and doorsills so toasty that it melted our Chuck Taylors. Well, that might be an exaggeration. Another exaggeration was that the Viper could cook eggs and bacon on its doorsill, but we nonetheless ran a photo of just that as a joke. DaimlerChrysler brass were deeply upset and threatened to pull future press-launch invites. Later they cooled off—the executives, not the Viper sills.

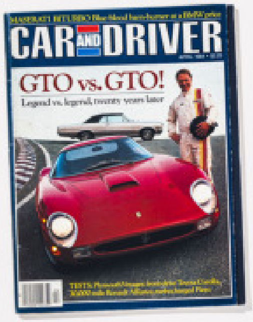
GOAT vs. Goat

70 YEARS OF *CAR AND DRIVER*

We see how the iconic 1960s Pontiac GTO stacks up dynamically against today's Jeep Wrangler.

by Dave VanderWerp / photography by Michael Simari

70
YEARS OF
CAR AND
DRIVER



GRAN TURISMO OHMYGODO
In the April 1984 issue, we got together a 1964 Pontiac Tempest LeMans GTO and a 1964 Ferrari 250GTO to actually perform the hypothetical comparison from the March 1964 magazine. We invited Dan Gurney along for the fun and to lap the two cars on track. The Ferrari ran away with every test, hitting 60 mph in 5.8 seconds, 1.1 seconds quicker than the triple-two-barrel, 389-equipped Pontiac, and was 7.6 seconds faster around Laguna Seca. Back then, we estimated the Ferrari's price to be $300,000. Current value: roughly $50,000,000.

RIP, PONTIAC (1926–2010, 2024)
In 2010, after years of diminishing sales and in the wake of a bailout, General Motors closed its Pontiac division. The brand that prioritized performance—and brought us the GTO, the Bonneville, Grands of Am and Prix, Transes of Am and Sport, and Gs of 3, 4, 5, 6, and 8—delivered its last excitement. What would *Breaking Bad* have been without the Aztek? Just another average cable drama with 16 Emmy wins. Reports of the brand's resurrection in 2024 were made up. Now why would someone do that?

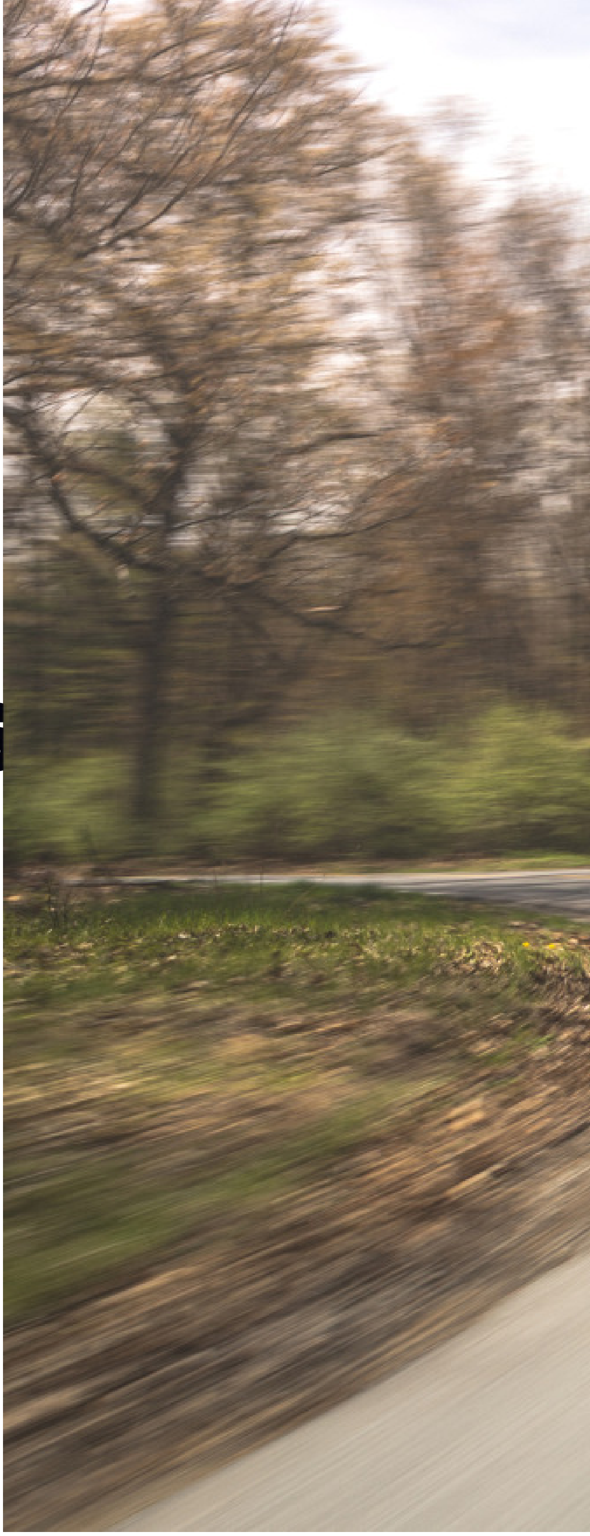
Settling arguments

is often the basis for story ideas, and one particular debate regarding the magnitude of vehicular progress over the past six decades seemed perfect to tackle on the occasion of our 70th anniversary. The question is this: Could the much-heralded, world-beating muscle cars of the 1960s keep up on a back-road blast with even the least coordinated vehicles on sale today?

"It's hard to imagine anything worse than this dynamically," remarks executive editor K.C. Colwell after a plunge through our rough-and-tumble evaluation loop in rural Michigan in a 2025 Jeep Wrangler Rubicon 392. A vehicle, in fairness, whose extended ground clearance, solid front and rear axles, knobby 35-inch all-terrain tires, body-on-frame construction, and recirculating-ball steering are completely at odds with ripping down paved roads.

Yet its imprecision and 470-hp 6.4-liter Hemi V-8 make for a riotous and comedic duo. The dynamic rightness that allows for inhaling corners in today's best sports cars at two or three times their recommended speed earns deep admiration and respect, but it doesn't lead to uncontrollable belly laughing like sawing away at the helm of a Wrangler midcorner and realizing how far you can move the wheel and still have zero effect on the direction the car is pointed. Or laying into the throttle exiting a turn, the Hemi hoisting the Jeep's nose in the air while twisting the rear end like a shammy and screaming a deep-throated bellow all the while. Not since the 2006 Chevy Impala SS that sent V-8 power coursing through the front wheels has anything felt so overpowered or had so few chassis modifications to cope with the additional thrust. Cars today are too sophisticated, too buttoned up, too serious.

Although a Wrangler with the base 285-hp V-6 would be a closer accelerative equal to the 1960s brutes, we went V-8 anyway. After all, the Wrangler 392, and the willingness of buyers to fork over more than $100,000 to buy one, demonstrates the continued brilliance of the idea of stuffing a big engine into a small car (or truck). It's kind of surprising such an inspired formula didn't emerge earlier, before bubbling out of John Z. DeLorean's team—yes, that DeLorean—at Pontiac in the 1960s. Well, the idea was the easy part. In what could in hindsight be recognized as the start of a pattern of deception, DeLorean first sold dealers



An homage to the right-hand-cornering illustration from our March 1964 cover, only this time a Jeep behind the GTO.

on the idea of turning the Tempest coupe into the high-powered GTO in order to force it through the bureaucracy of General Motors, which, at the time, forbade the unbridled awesomeness of such a large engine in a relatively small car.

Naturally, we wanted a Pontiac GTO for this story, given our history with the nameplate, which began with a March 1964 cover depicting that first Pontiac GTO chasing its namesake Ferrari. Although we never actually got those two GTOs together for that GTO-versus-GTO

	2025 Jeep Wrangler Rubicon 392	**1968 Pontiac GTO convertible**
Base/As Tested	$101,990/$109,570	**$28,000***/**$29,000***
Dimensions		
Wheelbase	118.4 in	112.0 in
Length/Width/Height	192.5/79.3/75.5 in	200.7/74.8/53.4 in
Track, F/R	66.9/66.9 in	60.0/60.0 in
Passenger Volume, F/R	54/**50 ft^3**	**55**/32 ft^3
Cargo Volume	**32 ft^3**	10 ft^3

**Prices when new, adjusted for inflation to 2025 dollars.*

story—nor did we claim to—the mere suggestion took on a life of its own. But we concluded with what today would be categorized as a serious hot take: "What does surprise us is that we found the Tempest GTO a better car, in some respects, than most current production Ferraris." As is still a regular occurrence today, outraged responses from our readers followed quickly.

Our GTO this time around came by way of our managing road test editor, Becca Hackett, whose father has owned this second-generation 1968 convertible for 23 years [see "The Family Goat," page 41]. This one is powered by a 455-cubic-inch (7.5-liter) monster of a V-8 that was donated from a 1971 Catalina a year after Pontiac started offering this largest engine in the GTO.

It's rare that a 6.4-liter Hemi feels down on torque, but that's the case when the comparison point is Pontiac's beastly 455. We totally understand how our predecessors 61 years ago would fall for this engine and positive-action four-speed manual. Well, it wasn't exactly this engine—and in fact, in that '64 story, they didn't know which engine it was either. We were told the 1964 GTO was powered by the 389-cubic-inch (6.4-liter) V-8, lightly warmed over by Royal Pontiac of Royal Oak, Michigan. But Jim Wangers, chief of Pontiac's advertising agency, fessed up years later in his memoir that the car was a lightweighted cheater powered by a hopped-up 421. It probably wasn't the first time someone pulled one over on us, and it certainly wasn't the last. So it's no wonder the 13.1-second quarter-mile time we recorded in 1964—identical to today's Jeep Wrangler 392's—grew to 15.1 seconds when we tested a legit production 1964 GTO powered by a 389 V-8 20 years later.

This GTO's gargantuan V-8 revs surprisingly quickly, considering the displacement and technology. The optimum launch point with

70 YEARS OF CAR AND DRIVER

I'M ALSO 70! America's signature theme park was alternately called Mickey Mouse Park and Disneylandia before officially becoming Disneyland by the time it opened in July 1955. (Admission price: $1.) Its Tomorrowland attraction, which previewed the world of 1986, included Autopia, where guests could drive a gas-powered car on a model freeway. It remains to this day, because cars are timeless.

DISNEY PHOTO: GETTY IMAGES

	2025 Jeep Wrangler Rubicon 392	**1968 Pontiac GTO convertible**
Powertrain		
Engine	pushrod 16-valve V-8 392 in^3 (6417 cm^3)	pushrod 16-valve V-8 455 in^3 (7455 cm^3)
Power, hp @ rpm	**470** @ 6000	250 @ 3600
Torque, lb-ft @ rpm	**470** @ 4300	375 @ 2400
Redline	**6000** rpm	5100 rpm
lb per hp	**11.6**	15.2
Driveline		
Transmission	8-speed automatic	4-speed manual
Driven Wheels	all	rear
Final-Drive Ratio:1	4.56	3.55
Chassis		
Suspension	**F:** live axle, coil springs, anti-roll bar **R:** live axle, coil springs, anti-roll bar	**F:** control arms, coil springs, anti-roll bar **R:** live axle, coil springs
Brakes	**F:** 13.0-in vented disc **R:** 13.8-in vented disc	**F:** 11.1-in vented disc **R:** 9.5-in drum
Stability Control	partially defeatable, traction off	ha!
Tires	BFGoodrich All-Terrain T/A KO2 LT315/70R-17 113/110S M+S 3PMSF	BFGoodrich Radial T/A **F:** P235/60R-15 98S M+S **R:** P275/60R-15 107S M+S

this 3.55:1 axle ratio is only about 600 rpm above the 455's throbbing 1200-rpm idle—any higher leads to instant wheelspin. With this much torque, is it even physically possible to stall this engine? You ride a light roasting of the rear tires all the way up through first gear and then get a healthy squawk with a quick shift into second and again into third. A gorilla beating its chest doesn't exude the muscularity of the GTO's enveloping low-pitched roar. It's not a revver, as the maximum recommended speed is 5100 rpm, a point by which it's thoroughly out of breath anyway. You're in fourth before you reach the quarter-mile, which we hit in 15.2 seconds at 93 mph. But both the quarter-mile and the 6.5-second 60-mph time would improve dra-

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Just totally normal Jeep stuff (above), a Wrangler chirping its front tires and sending the nose skyward during a hole shot. Big engines in small places is a wonderful, timeless idea (left).

TEST RESULTS	**2025 Jeep Wrangler Rubicon 392**	**1968 Pontiac GTO convertible**
Acceleration		
30 mph	**1.4 sec**	2.3 sec
60 mph	**4.2 sec**	6.5 sec
100 mph	**12.3 sec**	17.8 sec
1/4-Mile @ mph	**13.1 sec** @ **102**	15.2 sec @ 93
	Results above omit 1-ft rollout of 0.3 sec.	*Results above omit 1-ft rollout of 0.4 sec.*
Rolling Start, 5–60 mph	**5.1 sec**	6.7 sec
Top Gear, 30–50 mph	**2.8 sec**	3.7 sec
Top Gear, 50–70 mph	**3.5 sec**	3.8 sec
Top Speed	110 (gov ltd)	**116 mph** (*C/D* est)
Chassis		
Braking, 70–0 mph Roadholding,	**206 ft**	307 ft
300-ft Skidpad	0.68 g	**0.73 g**
Weight		
Curb	5465 lb	**3812 lb**
Distribution, F/R	53.7/46.3%	57.9/42.1%
Fuel		
Capacity/Octane	**21.5 gal**/91	**21.5 gal**/91
EPA Comb/City/Hwy	14/13/16 mpg	not/good mpg
C/D 150-mi Trip	**12 mpg**	11 mpg
Sound Level		
Idle/Full Throttle	**49**/91 dBA	62/**86 dBA**
70-mph Cruise	**73 dBA**	82 dBA

Tested by Dave VanderWerp in Chelsea, MI

matically if more modern, sticky tires than these all-season BFGoodrich Radial T/As were available in these classic sizes.

With four-wheel launch traction and gobs more power, the Jeep chirps its front tires on the way to a 4.2-second run to 60 mph. Its straight-line win is no surprise. What is remarkable is that the GTO nearly keeps pace in the 50-to-70-mph passing test, even without the benefit of a downshift. Also, considering that the cars' build dates are many decades apart, it's uncanny how similar the magnitude of slop in their recirculating-ball steering is, as is the level of shake in their body-on-frame structures. But you feel the Jeep's elevated ride height, which imparts far more head toss. Steering feel apparently had yet to be invented in the 1960s, and the GTO's helm is absolutely and completely devoid of anything approaching feedback. Even when the tires start squealing, there's zero change in the steering effort.

By 1968, GTOs were available with front discs and the Pontiac's brakes feel way better on the road than we expected. In our 70-mph braking test, we stood on them as hard as we could without causing lockup, which is why the 307-foot stopping distance isn't any better.

What does 60 years of evolution get you? Other than modern features, conveniences, and electronics, the overarching difference with the newer Jeep is isolation. Not from the road; the GTO has that part handled. But you feel its engine constantly thrumming in your backside, and wind noise drowns out conversations. We thought 73 decibels at 70 mph was loud in the

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FOR SCIENCE
Our March 1978 issue featured "The Great Carry Nation Memorial *Car and Driver* Drunk-Off," in which three editors performed a timed slalom at progressively greater levels of inebriation as measured by an electronic Breathalyzer, a then-new technology. Observing, executive editor Steve Thompson wrote: "By the time they reached their individual tolerance levels [only assistant editor Michael Jordan reached 0.10 BAC], they were physically ill, about as capable of driving an automobile as they were of going a few fast rounds with Muhammad Ali."

MORE SCIENCE
We repeated the impaired-driving experiment, this time with marijuana, in June 1980. Test subject Patrick Bedard reported: "I'm a vegetable, focused inward, contemplating the rapture. My mind can only groove on the bliss. I can't drive." Rumor has it Don Sherman went full Lizard King.

Above: The GTO shows off its customized interior. Left: We didn't run the cars around Flat Rock Speedway's quarter-mile oval or figure eight at speed, but our money's on the GTO winning there.

BACKSTORY

THE FAMILY GOAT

My father always wanted a GTO, specifically a '68 or a '69, ever since he worked summers in Pontiac factories in the late 1960s as a college student. He did stints on the engine assembly line and worked in the foundry, where he shoveled the sand used for engine-block casting. He also spent time in final assembly. There, he installed everything from power-steering hoses to exhaust systems to driveshafts. One of his jobs was to adjust the headlights before a co-worker drove a freshly minted Tempest, GTO, LeMans, or Catalina to the parking-lot holding area, although he sometimes got to do that task. "If you got into a GTO," he said, "you'd drive it as fast as you could for 100 feet and then park it." (We've had *C/D* road warriors take cars to the local Shell station with similar verve.)

Medical school and raising a family kicked the GTO can down the road for a long while. Then, in the winter of 2002, a power outage where we lived in Ann Arbor was the perfect excuse for a road trip to Mershon's classic-car dealership in western Ohio. It had six GTOs but only one convertible. Its original 400-cubic-inch High Output V-8 engine and three-speed automatic had already been supplanted by the current 455 and four-speed manual. The interior had been completely reupholstered and fitted with a new dashboard. A tan top replaced the original black one.

My dad's GTO is one of the reasons I got interested in cars, and I hope my kids' naps in the back seat, induced by the 455's rumble, will help pass the bug to the next generation.
—*Becca Hackett*

Wrangler, with its optional power-operated Sky Top—a hard top with a fabric section in the center that slides open like a sunroof. But the GTO, with an 82-decibel racket, has so much wind noise that you wonder if the top is up or down (although this example may not represent factory-grade sealing).

The Wrangler also keeps the V-8's thermal excesses from reaching the cabin. In the GTO, heat pours out from between the shift boot and the lever, and it feels like the driver's seat might be part of the cooling circuit. It makes you wonder how much of the combusted fuel is actually going toward propulsion, which is a good question. The engine was rated at 325 horsepower in its day (that was an SAE-gross figure), but the number dropped to 250 horses in 1972, when Pontiac started reporting net horsepower figures.

Jump off the gas in the Wrangler, and a computer controls the rate at which the throttle plate closes to smooth out anything unbecoming, whereas you're in complete control of the GTO's mechanical linkage. The Jeep's exhaust note gets flatulent in its loud mode, when the engine puts four cylinders to sleep to improve efficiency, another modern "convenience."

The Jeep's Hemi did eke out a fuel-economy win—12 mpg to the GTO's 11—which is impressive, considering it makes 88 percent more power and is propelling over 1600 more pounds. We suppose that's what comes with 55 years of pushrod-engine development, although the Jeep also has twice as many gear ratios in its transmission.

Despite the GTO's relative and genuine light weight compared to modern cars—although it's more than a foot longer, it weighs roughly the

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THEN AND NOW

In 1955, there were just three models with V-12s, all from the same make:
Ferrari 250 Europa, 200 hp
Ferrari 250 GT, 200 hp
Ferrari 375 America, 296 hp

In 2025, there are quite a few more:
Aston Martin Vanquish, 823 hp
Ferrari 12Cilindri, 819 hp
Ferrari Purosangue, 715 hp
GMA T.33, 608 hp
GMA T.50, 661 hp
Lamborghini Revuelto, 814 hp*
Mercedes-Maybach S680, 621 hp
Pagani Utopia, 852 hp
Rolls-Royce Cullinan, 563–591 hp
Rolls-Royce Phantom, 563 hp
Rolls-Royce Ghost, 563–591 hp

**V-12 power only; combined hybrid power is 1001 hp.*

Neck protection was a thing of the future in 1968, a time when driver distraction was primarily the vehicle's doing (the noise, the heat, the imprecise steering and handling, the weak brakes).

same as a rear-wheel-drive BMW M340i—every touchpoint, from the way the doors slam to the shift lever, has a fantastic, high-quality heft to it.

But back to cutting up back roads. The Jeep takes a better, more reliable set in corners, and it feels like the level of grip at the onset of tire squeal is roughly double that of the GTO. Behind the Pontiac's long hood, every sweeping curve becomes a half-dozen or more mini corners, depending on what bumps are present and the camber or crown of the surface. Apply steering, wait for the car to respond, and be ready to correct, then correct some more. Sometimes you can see the right side of the car shaking over a sequence of bumps that you don't really feel in the driver's seat. It's like piloting multiple vehicles flying in close formation and not being totally sure which one you're controlling.

However, on the smooth skidpad, the GTO on modern tires is much friendlier. We found it relatively easy to hold it at the limit—the Pontiac handily outgripped the Jeep, 0.73 g to 0.68 g—and adding some throttle brings the rear end around slowly and controllably. That's good, because catching a tank slapper in the GTO is a low-probability event, even with steering that, at 2.8 turns lock to lock, is over twice as direct as the original GTO's.

But to answer the question that brought us here: Although the Jeep Wrangler is comically bad in the tightest and twistiest sections, each and every time, no matter which of us was driving, it easily walked away from the GTO. According to the transitive property, that makes the Wrangler better than plenty of now-multimillion-dollar classic Ferraris. ▪

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EXPERIENCES
Seaside to Sierra
2025
SEPTEMBER 2025
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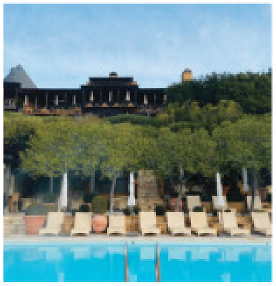
- Gear up for a high-adrenaline driving experience with track lapping and timed autocross sessions at Sonoma Raceway. Then, compete for the top spot in our timed autocross competition.
- Downshift with relaxing stays at luxury resorts Lodge at Presidio, Montage Healdsburg, Holbrooke Hotel, and The Ritz-Carlton Lake Tahoe.
- Indulge in on-site resort amenities and savor delectable culinary experiences and cocktail pairings with editors and special automotive guests.
- Connect with fellow enthusiasts and editors alike and bring home memories that will last a lifetime.



Reserve your spot now — space is limited. Apply today. Visit experiences.roadandtrack.com to learn more.

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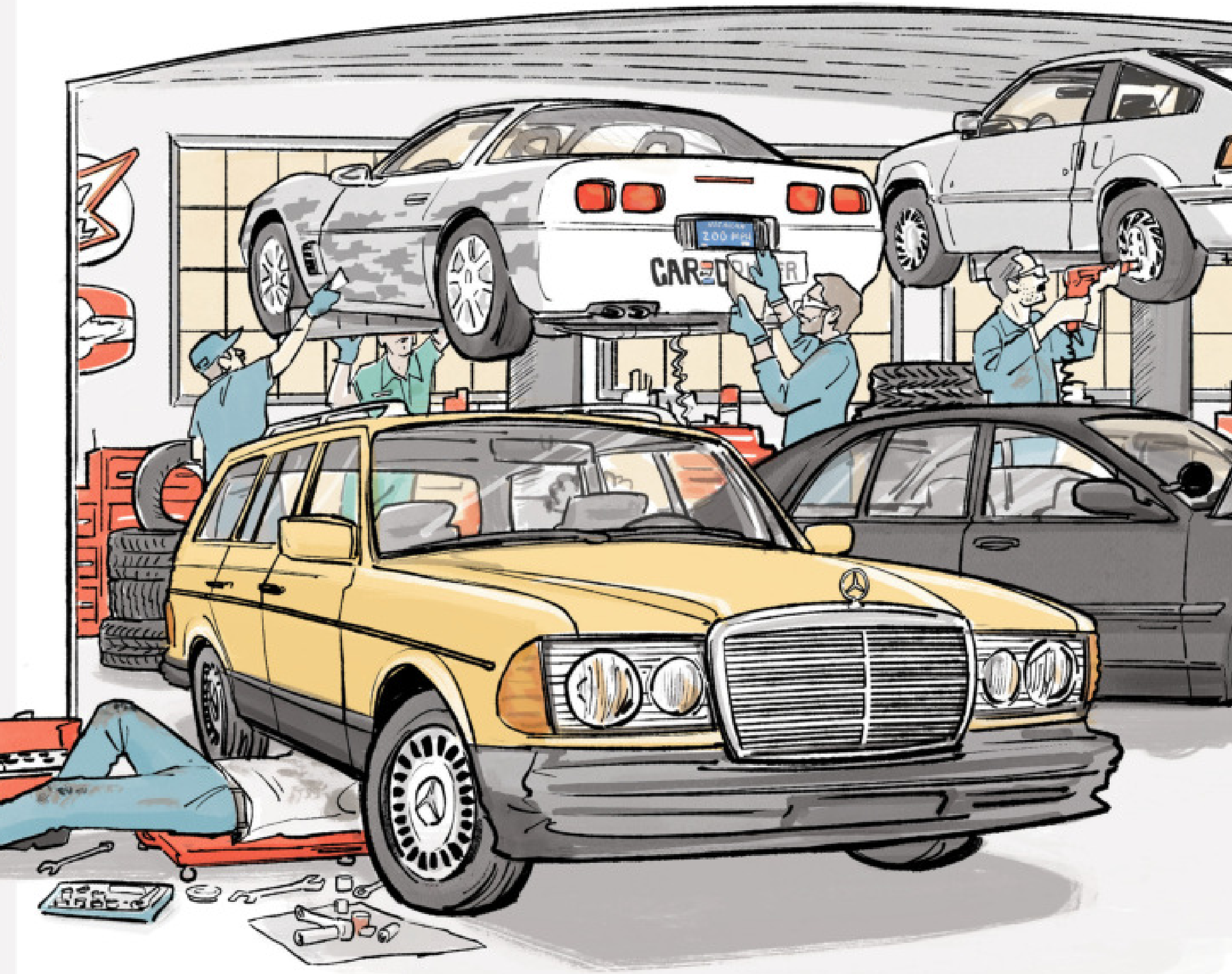
I'M ALSO 70!
Velcro's U.S. patent for the hook-and-loop fastener turns 70 this year too, though it's been used to secure Aunt Edna's shoes for what seems like forever. Velcro may have peaked on these hot-looking New Balance sneakers.

THEN AND NOW

GASOLINE DIRECT INJECTION (GDI) PRESSURE IN THE 1955 MERCEDES-BENZ 300SL: UP TO 682 PSI

MODERN GDI PRESSURE: UP TO 5076 PSI



The Project Car

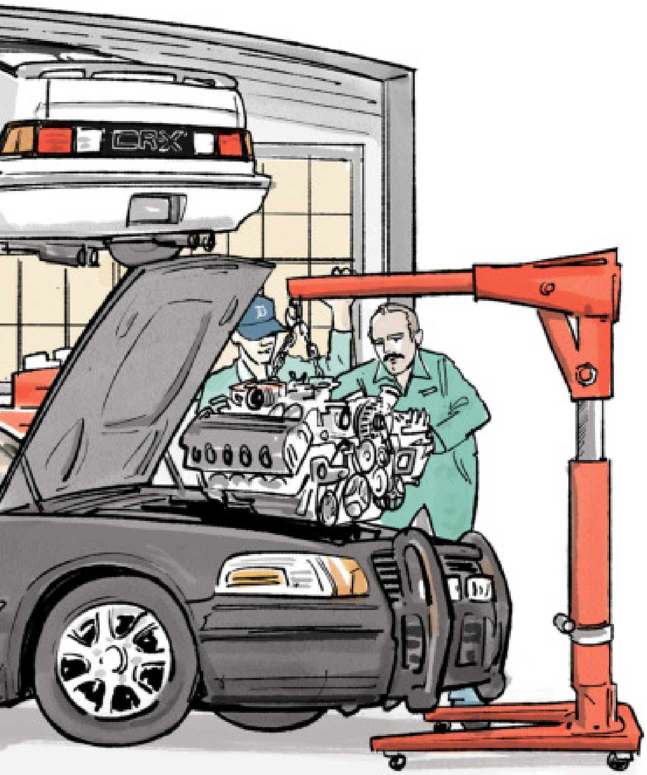
SOMETIMES WE JUST CAN'T LEAVE WELL ENOUGH ALONE.

THERE RESIDES IN the human psyche an overwhelming urge to fiddle with a good thing. Which is our excuse for project cars.

Our first was a 1957 Plymouth Fury inhaling Daytona Beach air through twin four-barrels. It managed 124 mph. We once stuffed a Pontiac single-overhead-cam inline-six into a Jaguar XK-E. In 1966, we attached a set of Koni dampers and Maserati airhorns to a Plymouth Fury wagon—maybe 60 minutes of customization. Who but *Car and Driver* would install two engines in a first-gen Honda CRX? And we extorted a Penske mechanic into inserting a 370-hp V-8 into a Camaro we called "the Blue Maxi Z/29."

On occasion, projects bore actual fruit: A 212-mph Corvette—427 cubes, 603 horsepower—that we built to celebrate the magazine's 40th. A 150-mph 1998 Ford Crown Victoria that ingested two V-8s during testing yet almost won the Hooker's Choice Award in a Nevada race. And an otherwise matronly 1996 Mercedes-Benz E320 that achieved 198 mph with a V-12 in its proboscis.

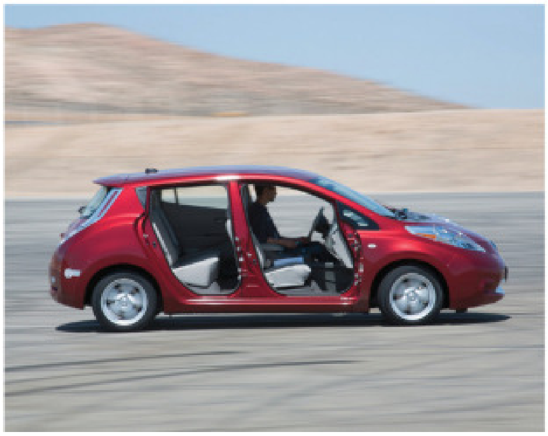
One reason we haven't built more project cars



RISE TO THE CHALLENGE

Back when *C/D* called Manhattan home, we spent so much time at Lime Rock Park that we started hosting Showroom Stock Sedan Challenges there. Readers brought cars adhering to the newly crafted class and went wheel to wheel with Pat Bedard, Don Sherman, Jim Williams, Ted West, and good taste, not necessarily in that order. We campaigned a Dodge Colt, a Ford Pinto, a Saab 99, and others. Of the first such gathering, recounted in the January 1973 issue, we said, "While 77 cars took up the Challenge, another 7500 readers were on hand with hopes of seeing *Car and Driver* humbled." That seems about right. The last Challenge, chronicled in the November 1976 and January 1977 issues, was won by Stig Blomqvist. Heard of him?

THERE'S $5000 THAT SAYS YOU CAN'T OUTDRIVE THESE GUYS IN THE CAR AND DRIVER SS/SEDAN CHALLENGE OCTOBER 14 AT LIME ROCK, CONNECTICUT



ANGER MANAGEMENT

When we posited that a tire swap was all the 2011 Nissan Leaf needed to become a 1.00-g car, the goal was to prove that modern tires could work miracles. After the Leaf hit 0.96 g, we took off the doors to see what that would do. Grip went up to 0.97 g. Nissan was displeased, claiming we'd opened the company to liability because of what we'd done to the car. We think the fine folks at Nissan have mostly forgiven us, or its employee turnover is such that no one there today knows this happened.

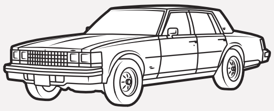
is that the requisite cash gets raked off the editorial budget, so it's like writing alimony checks not to your ex but to your new girlfriend.

Readers always ask what becomes of project cars. Back in the day, when ledgers were paper and handshakes were binding, projects would sometimes get sold for $1 to the company that contributed the most sweat. Our Corvette went to John Lingenfelter; our 150-mph Crown Vic to Kenny Brown; the E-class Benz to RennTech.

A different fate befell a Mercedes-Benz 300TD-T station wagon that went on to become David E. Davis Jr.'s beloved project. At about 60 mph, it clouted a 24-inch RCA TV someone dumped on the freeway. *Voilà!* Mr. Davis breaks into television.

REALLY BIG SHOW
SEMA (née the Speed Equipment Manufacturing Association, now the Specialty Equipment Market Association) had 120 vendors at its first show, held in the basement of Dodger Stadium in 1967. A league of legendary hot-rod pioneers was involved from the beginning, many whose names you see on stickers today: Weiand, Weber, Iskenderian, Moon, and others. Now the event covers 1.2 million square feet of the Las Vegas Convention Center annually.

OUT OF THE TOOLBOX
When the carburetor went extinct in new cars, it also marked the end of the need for a carburetor float tool. Thanks to the standardization of fuel injection, we no longer need to worry about how much fuel is in a carburetor bowl.



PROJECT SEVILLE
Ever wonder where Cadillac got the idea for its sporty Seville Touring Sedan, a.k.a. the STS? In 1977, we fitted beefier anti-roll bars, Bilstein dampers, reshaped coil springs, and Continental Showroom Stock racing-spec radials to make a 4400-pound Cadillac Seville handle like a four-door Trans Am.

GARAGE ILLUSTRATION: BRETT AFFRUNTI; CADILLAC SEVILLE: CHRIS PHILPOT

MINE CRAFT

SUBARU DROPS OFF A CRUSHER CAR AT OUR OFFICE, SO WE BREAK OUT OUR SAWZALL AND TAKE A TRIP BENEATH THE SURFACE OF THE EARTH.

by Austin Irwin / photography by Marc Urbano

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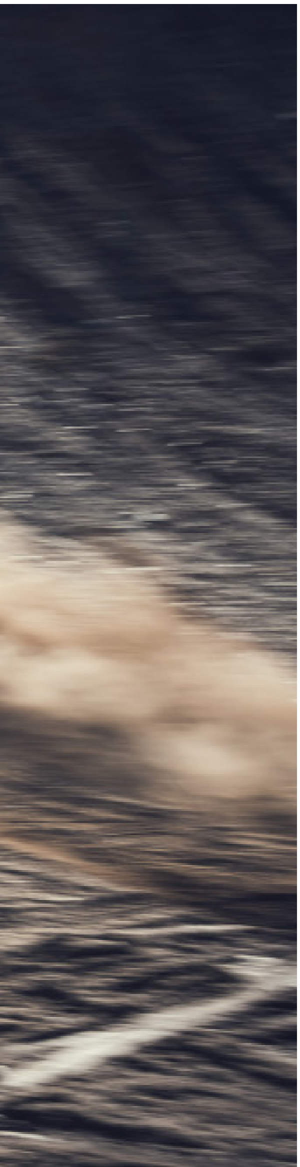
Imagine you're driving a Toyota 4Runner. A huge one. Or a Jeep. Yeah, a lifted Jeep. With big tires, antennas for comms, and a Dometic cooler full of Klondike bars. Now imagine thumping along your favorite off-road trail, mixing it up in beautiful brown mud while giant tread blocks stomp over downed tree limbs and reveling in the belief that you won't meet traffic along your secret path. Then, you see it. No, you hear it first. It sounds like a swarm of bees fighting in a civil war. Your heart sinks as the noise moves closer. You can't believe what you're about to ask yourself. Is that . . . a Subaru?

But on our endeavor, traffic would be of no concern. Just north of Pittsburgh is an off-road passage that leads 250 feet underground into a limestone mine that last had a pickaxe swung at it in 1914. The 0.8-mile loop is part of an off-road tour at Mines & Meadows ATV/RV Resort, which usually allows only side-by-sides and other all-terrain vehicles to pass through the mine's 84-inch-wide entrance. However, the resort made an exception for our project Subie.

In the past year, we've made some dramatic changes to one of our favorite sports cars, the four-time 10Best-winning Subaru BRZ. Last year Subaru's public-relations department called and asked what we might want to do with a BRZ sentenced to the crusher after living a life of press-car abuse. We don't know what rev-limiter agony this BRZ experienced, but we thought we'd give it a nice final outing before it met a hydraulic press. Shortly after the automaker's offer, Subaru of New England posted an April Fools' joke on Instagram: a rendering of a BRZ Wilderness. That gag became our goal.

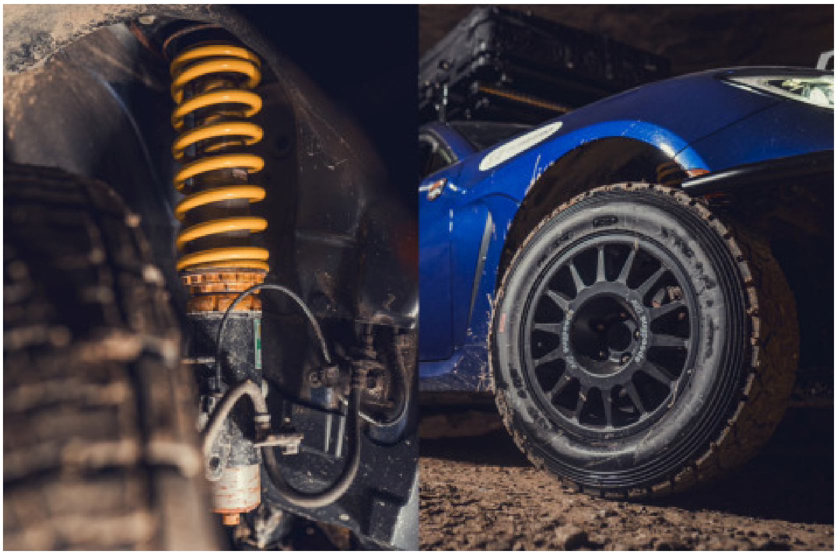
YOU'RE REVELING IN THE BELIEF THAT YOU WON'T SEE ANOTHER SOUL ON THE WAY TO YOUR SECRET SPOT. THEN, YOU SEE IT. NO, YOU HEAR IT FIRST.



Driving through a limestone mine is slow going. There lies some rather treacherous sand beneath this cavern's standing water, and it's best to keep the lights on to avoid dropping into the three-acre lake.

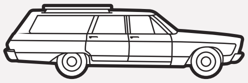
A mere appearance package wouldn't do for our BRZ Wilderness. Instead, our modifications needed to send the BRZ beyond the Target parking lot filled with TrailSports, Rock Creeks, and Timberlines and into some actual mud. To get us deeper off-road than any BRZ has been, this car would need a higher ground clearance, tires with tough sidewalls to survive many jumps, more LED lighting than a construction site, and an exhaust that would make it as loud as a Ferrari 458 Italia at wide-open throttle.

To build it, we started by raising the suspension two inches. Emboldened by the lifted silhouette,

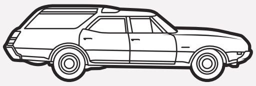


70 YEARS OF CAR AND DRIVER

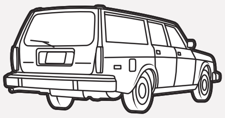
BOSS WAGONS
A series of hot-rod wagons and other two-box designs we've commissioned or built over the years.



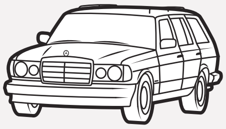
1966 Plymouth Fury III Wagon: dampers, tires, trumpet horns.



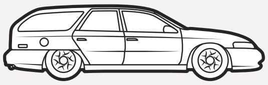
1968 Oldsmobile Vista Cruiser 455: 7.5-liter V-8 with 4-4-2 heads, capable of 120 mph.



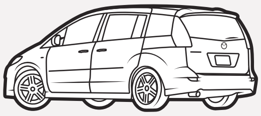
1977 Volvo 265GT: devoted to tuning the chassis, fitted with a laggy turbo, later unfitted.



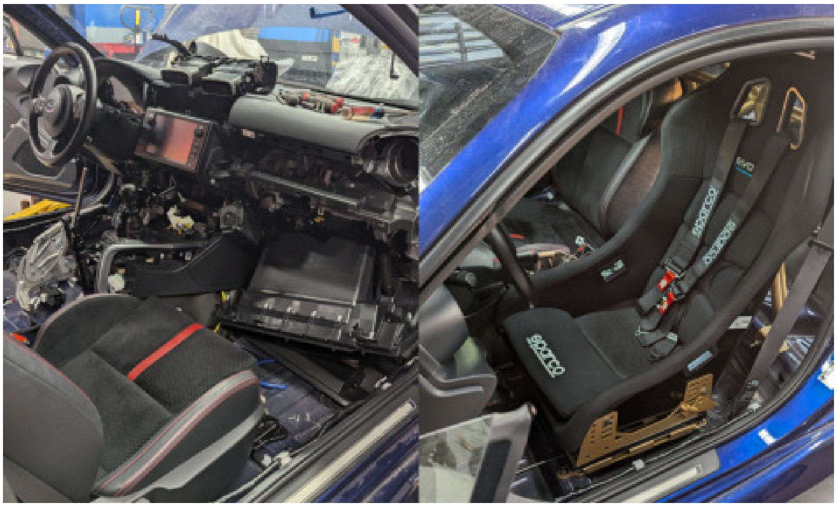
1981 Mercedes-Benz 300TD-T: dedicated to making the ultimate highway-mile eater, it averaged 23 mpg.



1993 Ford Taurus SHO: Ford never put this 220-hp wagon into production, but it should have.



2008 Mazdaspeed 5: A mini minivan with the powertrain and suspension of a Mazdaspeed 3.



With the installation of new bucket seats, six-point safety harnesses, and a roll bar, we were able to rip out more than 20 pounds of airbags and seatbelts.

we tore apart the BRZ to reduce the stock car's 2840-pound weight as much as possible. This is arguably the most satisfying part of any project: the removal and wanton destruction of things destined for the trash. It's also the easiest.

The BRZ shed 35 pounds after we removed the muffler. Its interior underwent a plast-ecotomy as we gutted it of unnecessary weight, tearing out carpet and 80 pounds of heated front seats. They'd be replaced by proper racing buckets with six-point safety harnesses that would require a quality roll bar (we'll do a safety cage if we take this car racing).

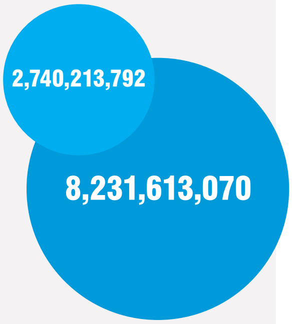
To get the parts we needed, the folks at Competition Motorsport in West Des Moines, Iowa, invited us to their toy store. Their showroom looks like Fernando Alonso's walk-in closet, with every size, color, and brand of racing suit, helmet, and glove on display. We left with Sparco Evo seats (weighing a mere 15 pounds each) and a bolt-in roll bar made with Docol R8 high-strength steel. The fabricators here can customize tubing for just about any application, and they welded ours together in three hours before sending it to the paint shop. That's quicker than most *Car and Driver* staffers answer emails.

To aid in the BRZ's weight-loss journey, Competition Motorsport also sent us home with a lithium-ion 12-volt battery from Antigravity Batteries. It's 21 pounds lighter than the BRZ's original lead-acid unit and helped keep the finished car's weight below 3000 pounds.

70 YEARS OF CAR AND DRIVER

THEN AND NOW

Population of Earth in 1955



Population of Earth in 2025

According to Worldometer. It's a thing, probably.

DEAD ENDS
Emissions, specifically the reduction of, were all the rage in the 1970s. BMW, Porsche, Ferrari, and others installed exhaust thermal reactors on models to meet early regs. Thermal reactors work by injecting fresh air into an insulated exhaust manifold, superheating the fumes to oxidize hydrocarbon and carbon-monoxide emissions. They were cheaper than two-way catalytic converters and worked with leaded gas. Three-way cats, used in all modern cars, also reduce oxides of nitrogen.

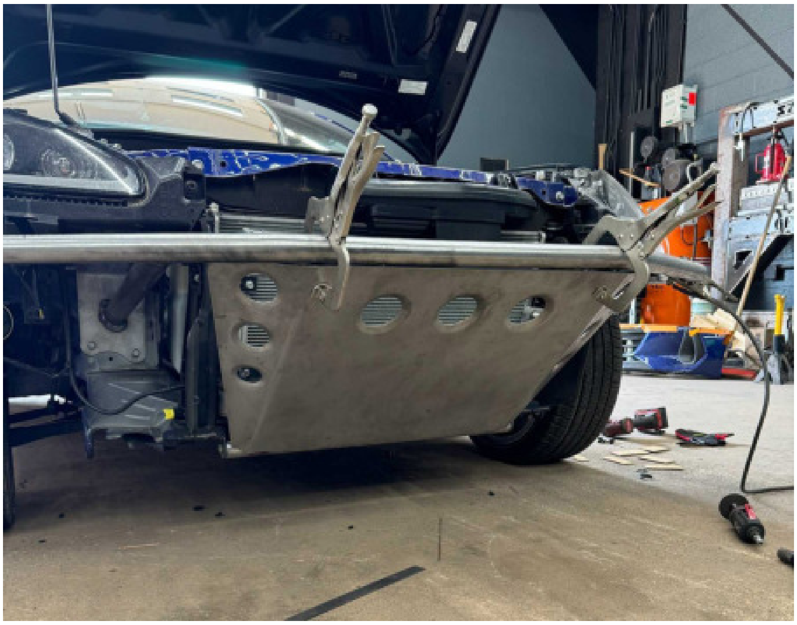
GARAGE SHOTS, INTERIORS: AUSTIN IRWIN; WELDING AND TUBING: KATHRYN GAMBLE; METAL SHEET: CORY DENNIS

Subaru didn't have many directives or guidelines but did ask that we not change the engine. So the 228-hp 2.4-liter flat-four is completely stock, which is probably the primary reason the car remains operational today. Perhaps Subaru knew what so many of us know: Engine modifications have left countless projects permanently on jack stands, much to the chagrin of neighborhood associations the world over.

Forced to leave the BRZ's flat-four alone, and our cherry-picker dreams dashed, we consoled ourselves by engaging in a little Sawzall therapy: We sliced the front bumper in half. Inspired by every press release we've read from Bentley and Pagani, we embraced the "bespoke" concept for the bumper's replacement. Making a new bumper is far outside our welding abilities, however, so we headed to Ishpeming, Michigan, to visit Sub-Zero Fabrication. The owner, Cory Dennis, put together a pre-runner-inspired steel bumper in just two days using 18 feet of 1.5-inch drawn-over-mandrel steel tubing. His custom, er, bespoke solution includes a wide removable skid plate with a gap at the bottom that allows small rocks to escape.

That bumper isn't there just for looks. It moves the lowest point of the front end closer to the wheels, greatly improving the approach angle. This earned it a ramp-travel-index score of 231, putting it 231 points higher than the $223,450 Porsche 911 Dakar that couldn't even climb the ramp.

Subaru typically dresses its Wilderness models with black wheels and Yokohama Geolander A/T tires. To optimize off-road traction, we hit up Yokohama for a set of Advan A053 gravel tires in their softest compound. This rally rubber forced us into a 15-inch wheel, so we went all in on the race-car look with Speedline Corse 2118s.

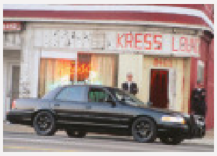


After author Irwin burned holes through steel tubing during a crash course in TIG welding, Competition Motorsport's top welder, Russ Gyles, told us we had a bright future in flute making.

70
YEARS OF
CAR AND
DRIVER

ROTARY RECORD
In the December 1986 issue, Don Sherman recounted his run at the Bonneville Salt Flats Speed Week in a project Mazda RX-7. His two-way average of 238 mph set a new bar for the Grand Touring Sports class. A few pages later, he reviewed a 10-mph Benz Patent Motorwagen.

HOT FUZZ
Our 1998 Ford Crown Vic, the Lounge Lizard, walked so the Mercury Marauder could run. The 355-hp, 150-mph sedan wore an SVO/Eaton supercharger and intake manifold fitted by Kenny Brown, a driveshaft built for NASCAR, and double spotlights and a bull bar from a police car. Its 4.6-liter V-8 spit out its con-rods in a way that reminded us of Wade Boggs eating sunflower seeds. The Mercury version opted for a naturally aspirated 32-valve 4.6. Ours was cooler.



We replaced the seat-heater switches with a control for the front 42-inch LED light bar and rear roof-mounted SXSUSA Alien Lasers spotlights.

The Advans are a middle finger to every pothole we've hit near our office that's ever bent a wheel or flattened a tire. Built for abuse, they were unfazed by landing 15 or more jumps. On dirt, you can drive to the limits of personal bravery, and their tread will hold grip or slide the car as much as you choose. On the highway, they emit a lovely whine, a sort of tire-noise equivalent of a GT3 racer's straight-cut gears. With most of its sound deadening in a dumpster, the BRZ is as loud at 70 mph as a Jeep Wrangler 392 at wide-open throttle. The soft compound didn't enjoy going around the paved skidpad, which after just two laps grated the outside tread like it was a block of Parmesan. Though to the tires' credit, they still managed 0.85 g on their way out.

More ground clearance came courtesy of a 2.0-inch lift using parts from Anderson Design & Fabrication: steel spacers that we attached above the stock struts, 1.5-inch-tall aluminum pucks that we installed between the chassis and the rear subframe. We later replaced the original struts and steel spacers with a set of Yellow Speed Racing (YSR) Dynamic Pro Gravel Rally coil-overs that promised to be more robust than the stock setup. The YSR coil-overs are giant assemblies that use 55-mm damper bodies, have relatively soft spring rates, and come out of the box as tall as the original front suspension with the spacers attached.

The fronts were wonderful. They had the BRZ gliding over speed bumps, potholes, and off-road trails with supreme softness. But the rears gave a back-pulverizing ride and sent the rear end of the car airborne over our parking lot's speed bumps when we were traveling as slow as

13 mph. We're hoping a replacement set cures the harshness, but that didn't stop us from taking the BRZ where no sports car has gone before.

We chased this April Fools' joke into the depths of that limestone mine, pursuing our goal of going beyond the wilderness and deep into the Earth's crust. The mine maintains an average temperature of 56 degrees Fahrenheit, making it a superb place for cultivating Snow Cap mushrooms; it also seems like a horrifying place to be on mushrooms. Holding up the stone ceiling are damp columns of multimillion-year-old rock that were once illuminated by the tiny headlamps atop the helmets of the men working here. Even with the BRZ's approximately 24,170 lumens of aftermarket front lighting flooding the walls (the Alien Lasers spotlights shouldn't be activated within two miles of an airport), this is still an absolutely forbidding and spooky place to off-road. Just wait until overlanders hear about underlanding.

A mine shaft is one of the strangest places to drive. It's a lot like parking a car in your parents' garage—a tight fit, overcrowded with stacks of materials that predate your birth. The only vista is darkness, and whatever's living in here will find you before you ever see it. It's fun, but we're still suckers for a good sunset.

We put plenty of sweat equity into this build, but the parts alone add up to nearly $15,000. Lamborghini charged more than twice that to turn a base Huracán into a Sterrato, which forgoes a bedroom atop its roof. Our Subie's $46,302 as-tested price is under the starting point of a Honda Civic Type R, which, despite its giant rear wing, isn't getting as many frequent-flyer miles as this BRZ.

We do have regrets. Rear-wheel drive is obviously a significant limiting factor to how far off the pavement you can go. In fact, just getting back to the staging lot of a Michigan off-road park required a running start. Our tent and rally-focused tires cost us in straight-line performance. A 2022 BRZ we tested reached 60 mph in 5.3 seconds and had a trap speed of 100 mph at the quarter-mile mark. With all the stuff attached, our BRZ slowed to 6.1 seconds to 60, and we crossed the quarter-mile 9 mph slower. Racing bucket seats look cool and save weight, but climbing in and out of the cockpit more than twice in a day is a blatant reminder of how much weight we should personally try to lose. We probably also had room for at least eight more feet of LED lights. Oh well.

Taking a stock car and making it into exactly what you hope for is never a straight path. It takes hours and hours, which in this case were put in mostly by this author and photo assistant Charley Ladd, whose personal cars languished during the build. Project BRZ continues our tradition of building what manufacturers have yet to make. Here's hoping Subaru's sense of humor is wild enough to sell something like a BRZ Wilderness.

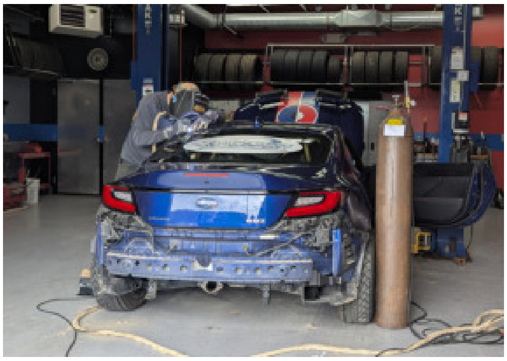
_C/D_ SUBARU BRZ WILDERNESS

Vehicle Type: front-engine, rear-wheel-drive, 2-passenger, 2-door coupe **Donor Car:** $31,490 **Parts:** $14,812 **As Tested:** $46,302 (not including labor) **Engine:** DOHC 16-valve 2.4-liter flat-4 **Power:** 228 hp @ 7000 rpm **Torque:** 184 lb-ft @ 3700 rpm **Transmission:** 6-speed manual **Wheelbase:** 101.4 in **L/W/H:** 169.4/69.9/70.9 in ***C/D* Curb Weight:** 2993 lb

TEST RESULTS	**NEW/MODIFIED**
60 mph	5.3/6.1 sec
1/4-Mile	14.0 sec @ 100 mph/14.8 sec @ 91 mph
100 mph	14.0/19.7 sec

Results above omit 1-ft rollout.

Rolling Start, 5–60 mph	6.4/7.3 sec
Top Speed (drag ltd)	140 (*C/D* est)/110 mph
Braking, 70–0 mph	163/171 ft
Roadholding, 300-ft Skidpad	0.94/0.85 g



Left: Roof-rack tabs get welded to the roof. Below: The idea to jump the car with the tent fully open was received with disdain by other tent makers. However, the folks at C6 Outdoor told us to send it.

REAR GARAGE: AUSTIN IRWIN

I'M ALSO 70!
While the OG McDonald's is older, it wasn't until Ray Kroc opened his first franchise in 1955 that the version of McD's we know today arched up. *Car and Driver* publisher, editor, and columnist David E. Davis Jr. considered the culinary accomplishment called the Egg McMuffin up there with the work of Kettering, Edison, and the Wright brothers.

ILL COMMUNICATION
Citizens band radio was the preeminent mobile two-way communication before the widespread adoption of cellular phones. Every vehicle in a comparison test would get a CB radio. Lead drivers would squawk directions. We still use radios, but they're little Motorolas you can buy at big-box stores.

The Comparo

GATHER, TEST, JUDGE, WRITE, REPEAT.

GATHER, TEST, JUDGE, WRITE, REPEAT.

"SIDE-BY-SIDE COMPARISONS are more revealing than you could believe." So we said, introducing a September 1966 sports-car comparison test that Ken Miles helped judge. The statement remains true today. Circulating through a group of cars over three or four days immerses us in a vehicle segment in a way no press junket or single-car drive can. On comparison tests, we swap cars every 20 to 30 minutes and make sure to drive on freeways and twisty roads, in urban traffic, and even on racetracks. We evaluate and rate back-seat comfort with two and three occupants, an often sweaty endeavor that lays bare colleagues' hygiene. We rip up and down mountain roads. When the brakes cool, the differences between the cars in the test become as clear as the Ten Commandments.

It's work, yes, but it's also a ton of fun. Over the evening cheese ball or Bloomin' Onion, we argue about the subjective categories on the ballot, from fit and finish to steering feel to the way the engine sounds. Uncovering the characteristics that elevate a car to greatness or send one to the bottom of the heap is what former managing editor Steve Spence called "the most important service *C/D* performs for readers."

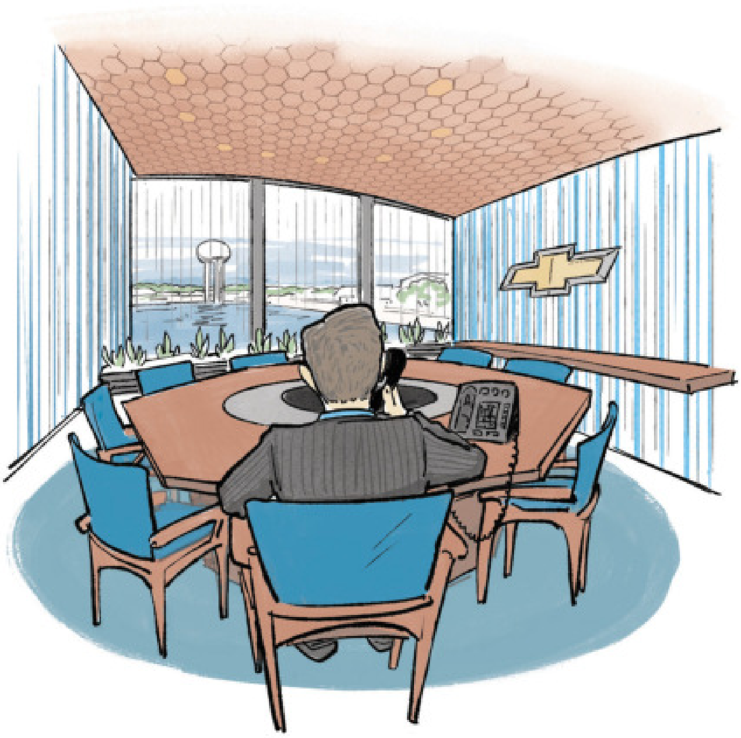
While we formulate our opinions free from bias, we know full well that our results will form your biases. So we tell it like it is and rank cars numerically, best to worst. It can be brutal. Our current comparison-test format seeks to show and explain the scoring clearly by organizing the story to reflect the scored categories. We think it's a revelation.

And while no one does comparison tests better than *Car and Driver*, we do have to admit that they can be as unwieldy as snakes in the laundry, and we've enraged cops who wag a finger and warn, "You need a parade permit."

We don't do parade permits. Never will.

ANGER MANAGEMENT

Automotive public relations is a game that sometimes has a learning curve. When we asked for a Corvette convertible for a 2009 comparison test, Chevy reps said sorry, no. So we rented a yellow Vette with 15,000 miles—those Hertz miles are like dog years—and it finished dead last, behind even the Audi TTS. Shortly thereafter, a Chevy executive called then–editor-in-chief Eddie Alterman and politely told him, "Let me know when we do something stupid."



2023-01-0349 Published 11 Apr 2023

Comparison of On-Road Highway Fuel Economy and All-Electric Range to Label Values: Are the Current Label Procedures Appropriate for Battery Electric Vehicles?

Gregory Pannone and Dave VanderWerp Car and Driver

Received: 09 Nov 2022 Revised: 10 Jan 2023 Accepted: 31 Jan 2023

Abstract

As consumers transition from internal combustion engine (ICE)-powered vehicles to battery electric vehicles (BEV), they will expect the same fuel economy label-to-on-road correlation. Current labeling procedures for BEVs allow a 0.7 or higher multiplier to be applied to the unadjusted fuel economy and range values. For ICE-powered vehicles, the adjustment factor decreases with increasing unadjusted fuel economy and can be lower than 0.7. To better inform consumers, starting in 2016, Car and Driver added an on-road highway fuel-economy test, conducted at 120 kph (75 mph), that augments the performance metrics that it's been measuring since the 1950s. For electric vehicles, testing includes an evaluation of the all-electric range.

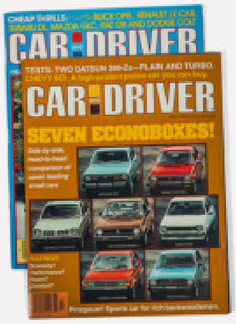
The on-road test results were aligned with the certification information for each vehicle model including unadjusted and label fuel economy and range, road load force coefficients, and labeling options. Tractive energy and kinetic energy available for regenerative braking were computed from the certification information to evaluate the differences between the on-road testing and chassis-rolls testing conducted during the certification process.

Based on these results, the highway fuel economy label tends to be a very good predictor of the fuel economy observed during the on-road test at real highway speeds with vehicles powered by an ICE. However, most BEVs tested to date fall short of both their electric consumption and range label values. For BEVs, the difference between the label and on-road consumption and range is further exacerbated by other factors, such as extreme temperatures and suggestions by automakers to charge to less than 100 percent to extend battery life. Consequently, these results support the need to re-evaluate the labeling procedures for this emerging technology as it continues to become increasingly prominent in the marketplace.

Introduction

TEST WE INVENTED

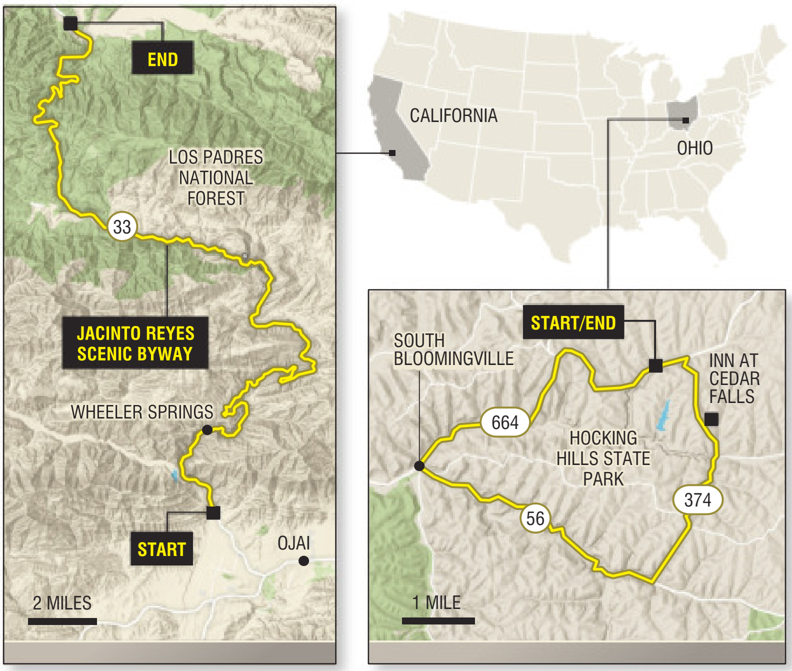
HIGHWAY FUEL ECONOMY
Not satisfied with EPA highway estimates, we've been testing highway fuel economy and EV range at 75 mph since 2016. The 200-mile test often exposes inflated EPA numbers and resulted in a published SAE paper.

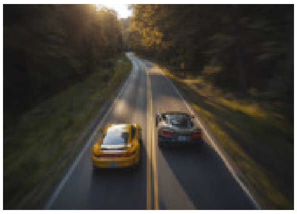


COMPARORAMA!
A 1978 comparison test of econoboxes was so sprawling—13 cars—that it had to be spread over two issues (winner: the Volkswagen Rabbit).

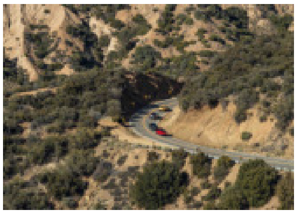
OUR STOMPING GROUNDS

Our two favorite locales for comparison testing are the Hocking Hills area of southeast Ohio and Ojai, California. The locations couldn't be more different in terms of demographics, but they share a common theme: generally vacant curvy roads running through the surrounding hills and canyons.





Hocking Hills is busier than it was when we'd regularly take eight to 10 cars for a comparo to the Inn at Cedar Falls, but the roads are still amazing for what is essentially the Midwest. There's elevation change, as well as corner and surface variety.

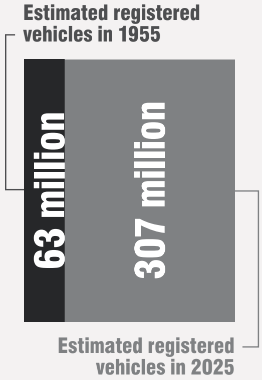


California's Route 33 jets north from the quiet town of Ojai. Tight switchbacks turn to faster sweepers once you reach the Central Valley. It's far enough away from L.A. that traffic isn't as busy as on the canyon roads of the Angeles National Forest.

	Roads of Interest	Median Income	Nearest Skyline Chili, mi	Nearest Erewhon, mi	Average Temp in July, °F	Average Temp in Jan, °F	Elevation, ft	Area, sq mi	Cash Crop, we think
Hocking County, Ohio	OH-664, 56, 374	$61,366	48	2292	73	29	742*	424	devil's lettuce
Ojai, California	CA-33	$79,202	2222	81	72	50	745	4	grapes

*In the county seat of Logan.

THEN AND NOW



McDONDALD'S: GETTY IMAGES; INFOGRAPHIC: NICOLAS RAPP; GM OFFICE: BRETT AFFRUNTI

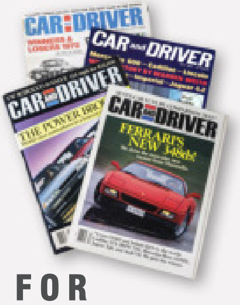
70
YEARS OF
*CAR AND
DRIVER*

SEEMS LIKE OLD TIMES

A QUARTET OF COMPACT FOUR-DOORS FROM THE U.S., EUROPE, AND JAPAN PACK SATISFYING DYNAMICS INTO PRACTICAL PACKAGES, DELIVERING ON THE SPORTS SEDAN'S LONGTIME PROMISE.

BY JOE LORIO /
PHOTOGRAPHY BY MARC URBANO
AND MICHAEL SIMARI

70
YEARS OF
CAR AND
DRIVER



FOR THE FIRST TIME

The debuts of each of this test's brands in a *C/D* comparison test.

1986 ACURA LEGEND
August 1986
Finish: Second place behind the Mercedes-Benz 300E, ahead of the Cadillac Seville.

"Honda has made a phenomenal leap with the new Acura Legend."

1973 AUDI 100LS
January 1973
Finish: Third place behind the Pontiac Ventura and Ford Maverick, ahead of the Peugeot 504, Saab 99 LE, and Volvo 144.

"It has a kind of sporting quality that enthusiastic drivers will find attractive."

1965 CADILLAC FLEETWOOD BROUGHAM
July 1965
Finish: Second place behind the Mercedes-Benz 600, ahead of the Lincoln Continental, Rolls-Royce Silver Cloud III, Imperial LeBaron, and Jaguar 4.2 (formerly Mark X).

"Among enthusiasts, the Cadillac is probably the most underrated car in the world."

1990 LEXUS LS400
December 1989
Finish: First place ahead of the Infiniti Q45, Audi V8 Quattro, BMW 735i, Jaguar Sovereign, Mercedes-Benz 420SEL, and Cadillac STS.

"The Nineties will be a glorious decade for cars."

HERE WE GO AGAIN, driving sports sedans and untangling some of the finest canyon roads Southern California has to offer. Sports sedans have long been *Car and Driver* favorites. Former editor David E. Davis Jr.'s 1968 ode to the BMW 2002 was a seminal work in celebration of the genre, back when muscle, pony, and sports cars were what captured the imagination. Today, ultraquick EVs, mind-bending hypercars, desert-running pickups, and SUVs of all stripes garner most of the attention, but we're still drawn to the purity and practicality, the aesthetics and the athleticism of this enthusiast-friendly four-door format.

LEXUS IS500 F SPORT
HIGHS: SEDUCTIVE V-8 SOUND, EVIDENT QUALITY, DRIVER'S SEAT YOU WON'T WANT TO LEAVE. **LOWS:** POWERFUL THIRST, SOFT BRAKE PEDAL, FEELS LIKE IT'S FROM ANOTHER ERA. **VERDICT:** RESPECT YOUR ELDERS.

CADILLAC CT4-V
HIGHS: BALANCED CHASSIS, PLENTY OF POWER, HANDSOME EXTERIOR. **LOWS:** GRIM INTERIOR ENVIRONS, TRUCKLIKE ENGINE NOTE, GEARBOX COULD BE QUICKER. **VERDICT:** DOESN'T QUITE SOAR LIKE THE BLACKWING.

The cars we assembled for this comparison test come from the U.S., Japan, and Germany. Each contender provides genuine performance for an outlay that's not far beyond the current new-car average.

The Acura Integra Type S compact four-door is thematically in line with the sports-sedan ethos, even if its luggage hold is accessed via a hatch and not a trunklid. It starts at $54,095, and with Liquid Carbon Metallic paint ($600) the only extra-cost item, our as-tested total came to $54,695. That made the Acura the least expensive car here. But just barely.

Audi offers its smallest sedan in three strengths: the lease-friendly A3, the pavement-ripping RS3, and, what works out to be the average of the two, the S3 we invited to the test. The S3 has more power for 2025, as its turbocharged 2.0-liter four finds another 22 horses for a total of 328, while torque stays at 295 pound-feet. For 2025, the S3 borrows the RS3's (and Volkswagen Golf R's) torque-vectoring rear differential, which helps the steering achieve the desired direction. The S3 starts at $49,995 but climbs to $56,195 in our top-spec Prestige trim. Our test car added another $4645 in extras, the most sig-

The Lexus IS500, the Cadillac CT4-V, the Audi S3, and the Acura Integra Type S, four fast four-doors livin' on the edge. Hopefully not of extinction.

AUDI S3
HIGHS: BLAZINGLY QUICK, TELEPATHIC AUTOMATIC, FUEL ECONOMY. **LOWS:** SYNTHETIC STEERING, SOME RIDE JITTERS, SPLASHY DISPLAYS' FLAWED LOGIC. **VERDICT:** MORE IMPRESSIVE THAN ENDEARING.

ACURA INTEGRA TYPE S
HIGHS: CHASSIS FROM THE GODS, UPSCALE INTERIOR, AND IT'S A MANUAL. **LOWS:** NOISY ON COARSE PAVEMENT, BUSY-BEE FREEWAY RIDE, CHEAP SEATS. **VERDICT:** NEVER MIND THE HATCHBACK—THIS SPORTS SEDAN STANDS SUPREME.

You don't feel much through the Audi's steering wheel, which works against you when reeling in slower traffic.

nificant being the S Sport package ($1100), which brought revised suspension tuning and adaptive dampers, swelling the bottom line to $60,840.

The Cadillac CT4-V is also the penultimate model in its lineup, sitting below the CT4-V Blackwing. The 'Wing-less V starts at $48,790, and ours wore $6220 in add-ons. The least costly item, performance brake pads for $100, was the only one that would affect test numbers, so even though the Caddy's $55,010 as-tested price was a relative bargain in this group, with more judicious options choosing, you could spend even less and replicate its performance.

We broadened our outlook past four cylinders and into the V-8 world of the Lexus IS500 F Sport Performance. We'll grant that a Lexus IS350 F Sport, with its 311-hp V-6 and $47,010 base price, may have jibed more closely with the other sedans. But we were intrigued by the idea of the IS500's naturally aspirated V-8, and its $60,595 starting price aligns with the Audi's as-tested figure. That price rose to $69,265 with options, though, and made the Lexus the spendiest proposition here.

You might be wondering about the new Mercedes-Benz CLA and the BMW M235 Gran Coupe. Stop. The Merc didn't arrive stateside in time, and the BMW, well, it was missing in action on a truck somewhere between Jersey and SoCal.

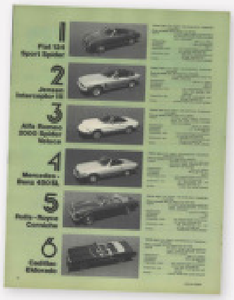
You could see this group as America versus the world, a theme we featured in a January 1980 comparison test, where the U.S. (in the form of the Buick Skylark on GM's star-crossed X platform) met Japan (represented by the Honda Accord) and Europe (with the Swedish flag–waving Saab 900 and Germany's Audi 4000). The Buick wasn't our favorite in any scoring category, despite being the quickest of the group with a 10.8-second time to 60 mph. Today's increasingly international auto industry brings a more level playing field, such that even a Vegas bookie might have struggled to handicap this match.

INTERIOR AND EXTERIOR

Audi interiors were once industry benchmarks, but we couldn't warm up to the S3's Joint Strike Fighter–like riot of angles, flat planes, and hard surfaces. The Audi cabin attempts to dazzle with mood lighting and big screens, and both the instrument display and the center touchscreen offer numerous configurations. Possibly too many. Oddly, a gas gauge isn't a permanent fixture in the instrument cluster, instead showing only a distance-to-empty readout. And we cursed the native navigation system's vagueness, which in some formats calls out upcoming directions but omits the name of the street, leading to more than one wrong turn in Los Angeles. The S3 is the smallest car here, but it is well proportioned, and its bright-red livery and stylish 19-inch wheels enlivened its look.

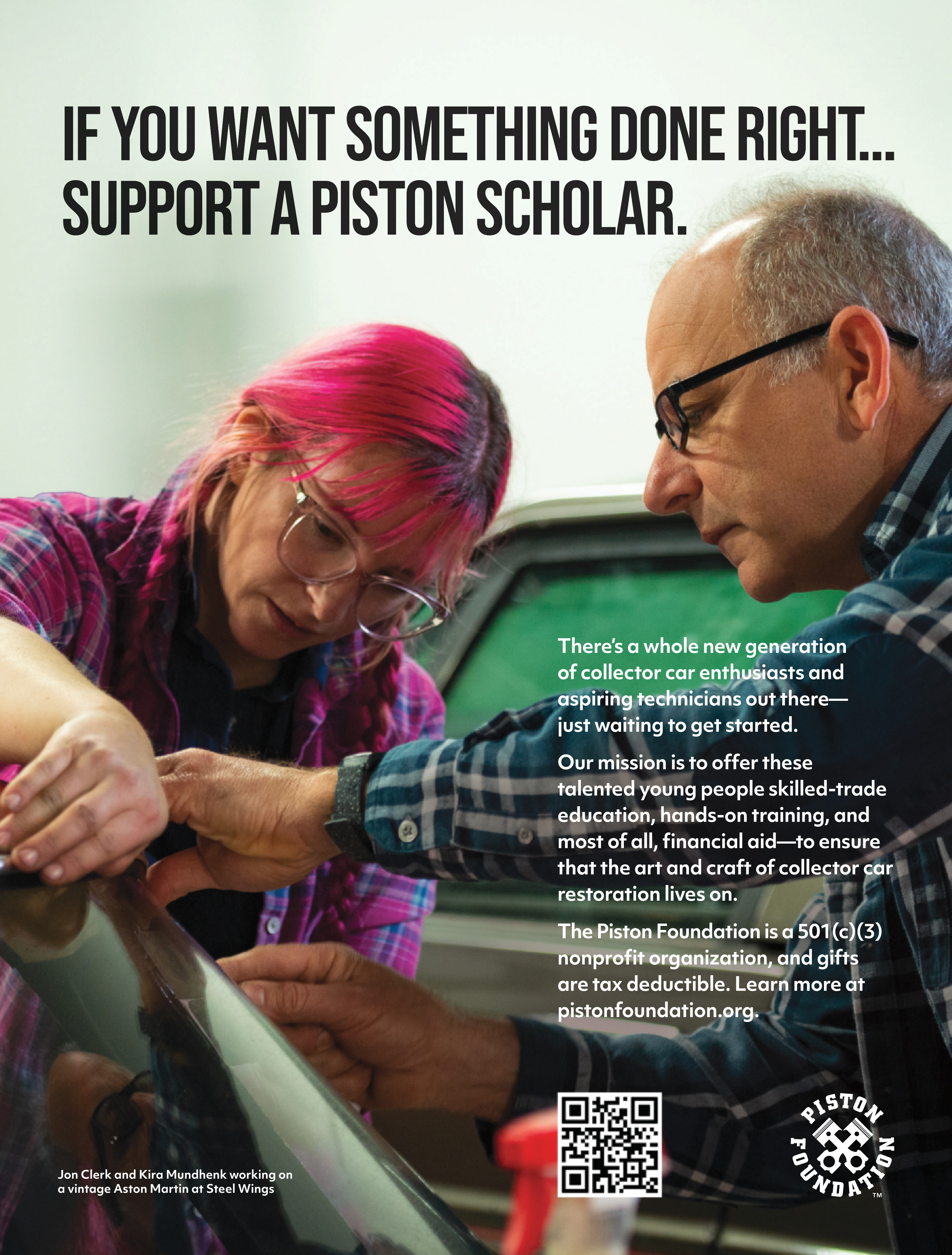
The IS500 is the elder statesman of the group, and its interior is something of a time warp. Look! It's a remote touchpad; we thought Lexus got rid of that. And is that a CD player? Grab your Destiny's Child disc. What you don't find is a place to put your phone—surely this car doesn't predate cellphones. But Lexus has had some practice building the IS, and it shows. There's a real impression of solidity here: in the satisfying sound of the door closing, the slick action of the shifter,

70
YEARS OF
CAR AND DRIVER



TOP THAT
Impending regulations were supposed to cancel the convertible, so for the August 1976 issue, we gathered what we thought were the last 12 available, compared them, and declared the Fiat 124 Sport Spider the winner. The convertible would enjoy a resurgence in the '80s but faces extinction again.

GREASED LIGHTNING
A new kind of comparison test debuted in November 2006. Conceived as the North American analogue of the famed Nürburgring lap time, Lightning Lap distills performance—acceleration, handling, grip, and braking—to a single number: a lap time of Virginia International Raceway's 4.1-mile, 24-turn Grand Course. We've had 18 editions and lapped more than 300 cars, creating an all-time leaderboard that has everything from Ferraris to Chevy Cobalts to electric cars. Currently sitting atop the throne is the 2019 McLaren Senna, which lapped the Grand Course in 2:34.9.



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Jon Clerk and Kira Mundhenk working on a vintage Aston Martin at Steel Wings

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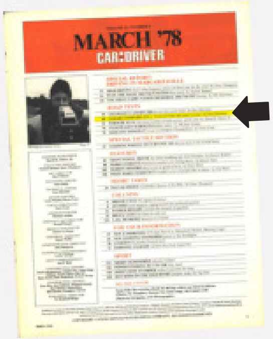
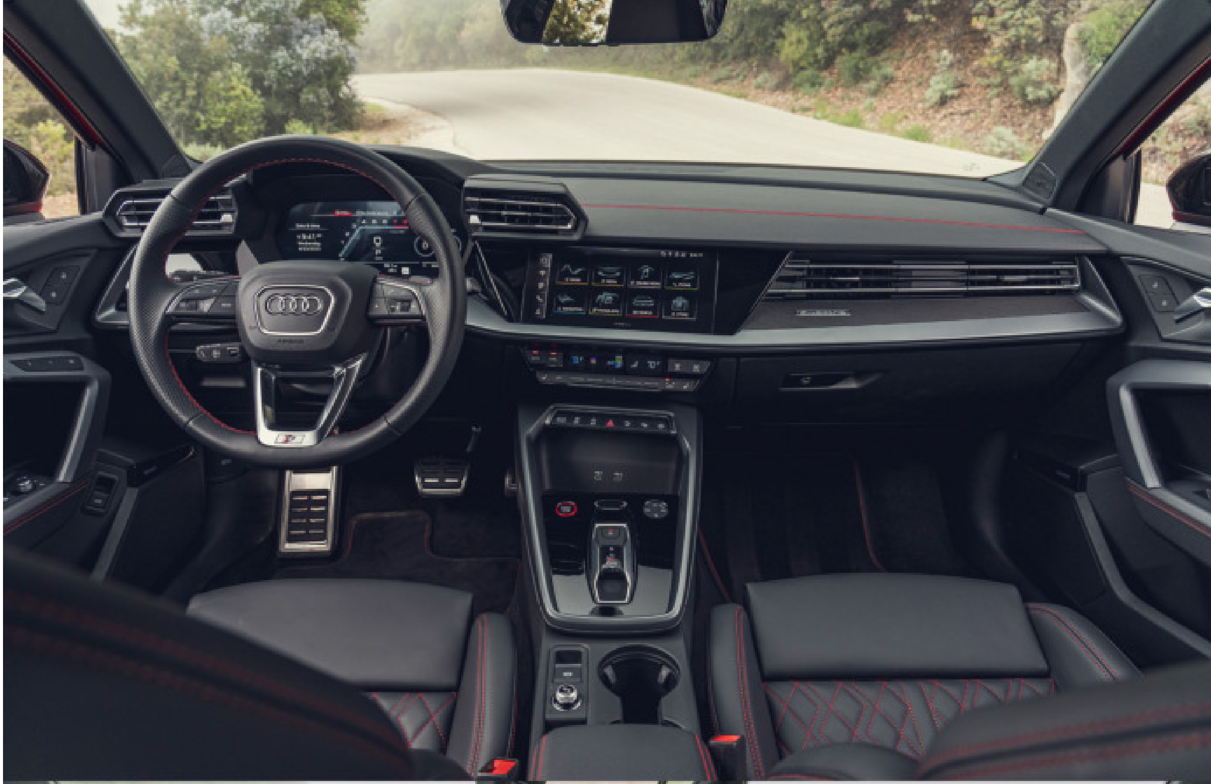
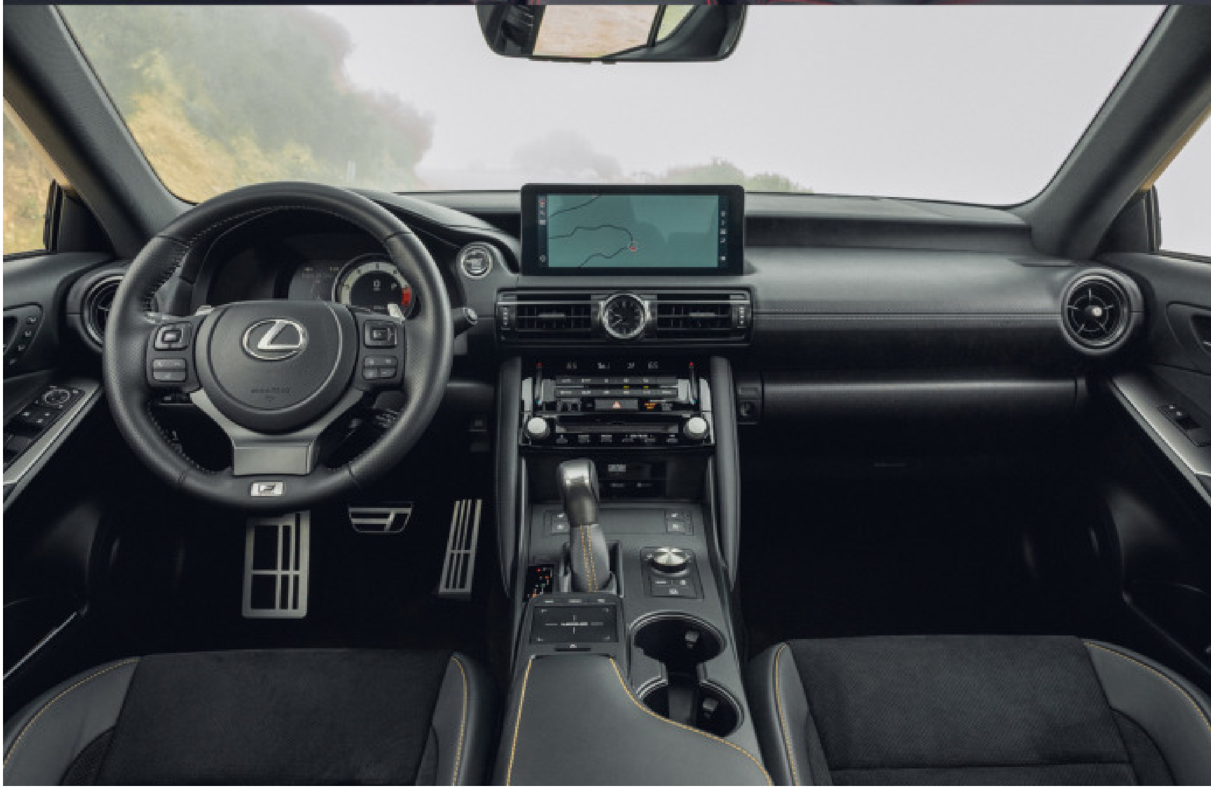


MARCH '78
CAR and DRIVER

WHY "COMPARO"?
It is unclear when we started using "comparo" as shorthand for "multicar comparison test," but it dates back at least to the March 1978 table of contents. "Comparo" wasn't used in the story, so our in-house archaeologists suspect we shortened "comparison" on the contents page for space.

I'M ALSO 70!
In 1955, Chrysler Corporation released a car marketed specifically to women. The Dodge La Femme was essentially an appearance package on the Custom Royal Lancer. It came with a matching purse and rain gear, but what stayed dry was sales, and the La Femme was discontinued after 1956.





	2025 Acura Integra Type S	2025 Audi S3	2025 Cadillac CT4-V	2025 Lexus IS500 F Sport
Base/As Tested	$54,095/**$54,695**	$49,995/$60,840	**$48,790**/$55,010	$60,595/$69,265
Dimensions				
Wheelbase	107.7 in	103.6 in	109.3 in	110.2 in
Length/Width/Height	186.0/74.8/55.4 in	177.4/71.5/55.7 in	187.2/71.4/56.0 in	187.3/72.4/56.5 in
Track, F/R	64.0/63.5 in	60.8/59.8 in	60.3/61.7 in	62.2/62.0 in
Passenger Volume, F/R	54/**43 ft^3**	48/40 ft^3	52/38 ft^3	**55**/37 ft^3
Cargo Volume	**24 ft^3**	8 ft^3	11 ft^3	11 ft^3

Clockwise from top left: Audi's angles, planes, and angled planes impart a sense of modernity, if not luxury. Acura's cabin doesn't try as hard and employs simple controls and pleasant materials. Caddy's physical buttons were welcome; the cheap-feeling materials, less so. The throwback Lexus has high-quality switchgear, plus it can play CDs!

and the feel of the steering wheel. The busy exterior styling has not aged so well, and this car's Flare Yellow special appearance package amplified that fact.

The CT4-V has also been around for a while—you can tell by its small 8.0-inch touchscreen. But the navigation system works extremely well, and the old-school interior carries some ergonomic virtues such as a shift lever and plenty of physical buttons. There is no upside to the hard-plastic materials, however, and the cabin is effectively a luxury-free zone. Meanwhile, the exterior designers have penned a restrained, sharply drawn sedan, albeit one that's particularly understated in our car's steel-blue gray.

That the Acura's interior shames the Cadillac's is shocking, given that some deride the Integra as a fancy Honda Civic. The Type S's two-tone treatment helps, but it's more the interesting surfaces and rich materials. Minor controls such as

If these cars were lined up in order of quickness, the Audi would be leading, with the Lexus close behind. Instead, they're arranged by color in an order the photographer thought looked pretty.

the three dials for HVAC and the little joysticks to operate the vents are simple and intuitive. The sightlines are vast from behind the wheel, thanks to a low cowl and narrow A-pillars. The seats, though, feel like economy-car fare, and the billboard-style infotainment display has small touchpoints. Looking at the Integra from the outside, some saw a few too many boy-racer details, while others found a just-right amount of fender-flare flamboyance.

POWERTRAIN AND PERFORMANCE

Judged by this quartet, it seems there's no consensus on the ideal powertrain format for a sports sedan. The Lexus takes the most traditional approach, with a longitudinally mounted, naturally aspirated V-8 hooked to a conventional eight-speed automatic driving the rear wheels. The Caddy also has a conventional automatic and rear-wheel drive but with a turbocharged 2.7-liter four. Audi employs a turbo four as well, here 2.0 liters mounted transversely and driving all four wheels via a seven-speed dual-clutch transmission. The Acura's turbocharged 2.0-liter four pairs exclusively with a six-speed manual and drives the front wheels.

The four-cylinders were tightly grouped in power output, at 320 to 328 horses, but varied considerably in torque, with the CT4-V's 2.7-liter pushing out 380 pound-feet to the Integra's 310 and the S3's 295. Unsurprisingly, the Lexus's 5.0-liter V-8 was the most muscular engine, with 472 horsepower and 395 pound-feet of torque; even with the most mass to move, the IS500 had the best power-to-weight ratio.

But it's not the quickest, at least in most measures. That would be the overachieving Audi, which used its all-wheel-drive traction and launch-control programming to reach 60 mph in 4.2 seconds, just shading the Lexus (4.3 seconds) and well ahead of the Caddy (4.7 seconds) and the Acura (5.1 seconds). Its 12.8-second quarter-mile tied the Lexus for quickest. The Audi was again on top with its zip from 30 to 50 mph thanks in part to its highly reactive dual-clutch automatic—though the dual-clutch did suffer some occasional lurching at parking-garage speeds. The other two automatics annoyed us by upshifting too early even in their sportiest modes. The stick-shift Integra, of course, sidestepped that issue, and we loved the shifter's positive throws, its friendly clutch takeup, and the involvement that a manual fosters.

Despite its 5.0-liter displacement, the atmosphere-sucking Lexus V-8 needs revving to reach its 4800-rpm torque peak. The turbos in the group take less effort to provide peak torque, 2600 rpm for the Integra and just 2000 rpm for the S3 and the CT4-V. But in the rolling-start 5-to-60-mph run, the instant response of the Lexus's naturally aspirated V-8 means no waiting for turbos to spool, so it beat the second-place S3 by half a second. And the IS500 was a monster when passing dawdlers on the two-lanes—note its best-in-test 50-to-70-mph time—all while sounding like your favorite song from the past.

The Lexus V-8 was the most vocal at full shout, but the quality of sound is superb. By contrast, the Cadillac's big four was universally derided for its engine note, which sounds like the low-revving truck engine that it is. When just

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TEST WE INVENTED

CARRY-ON BOXES
We used to measure real-world cargo capacity with 24-bottle cases of beer, but to make it more relatable to folks who don't like beer as much as we do, we changed to boxes matching the typical largest allowable carry-on suitcases (nine by 14 by 22 inches).

BRAND BIRTH
Launched in 1986 by Honda, Acura was the first luxury brand from a Japanese manufacturer. Toyota's Lexus and Nissan's Infiniti followed by 1990, but that same year, the Acura NSX went on sale. That reliable, fun-to-drive, and practical two-seat supercar immediately aged the Ferraris, Porsches, and Lamborghinis of the world.

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The IS500 likes its curves to be fast and sweeping rather than slow and tight. Popping the hoods on these four vehicles reveals more than the usual level of engine variety.

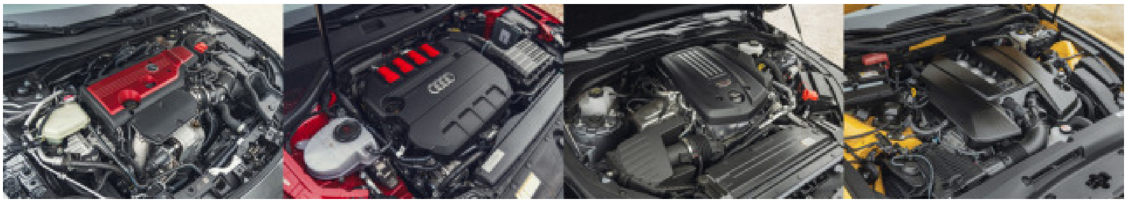
cruising, though, the Acura was clearly noisier than the others, transmitting far more road noise over rough pavement.

For all four, observed fuel economy landed within 1 mpg of the EPA's city estimate. The Integra and the S3 returned 22 mpg, while the CT4-V managed 19 and the IS500 just 17 mpg.

DRIVING EXPERIENCE

The S3 is highly capable on canyon roads, with grip that's easy to exploit. We didn't get much sense of the new trick rear differential working under power, and while we felt comfortable cornering near the car's limits, none of us found extracting its capability to be much fun. Blame the not-so-endearing combination of anesthetized steering with no buildup of effort and rubber-band tires (235/35R-19) that transmit every pockmark and groove into the cabin like a record needle. Even with the dampers in their softest setting, the Audi's lack of tire sidewall made for a rough ride relative to the Cadillac and the Lexus.

Cadillac chassis development has advanced the art of sports-sedan ride and handling balance, and the CT4-V Blackwing and CT5-V Blackwing have been fixtures on our 10Best list since their debuts. Indeed, the rear-wheel-drive CT4-V has terrific chassis balance thanks to weight distribution that the Audi can't match, but its 0.92 g of lateral grip is below the group average. There's more configurability in the CT4-V than in the others, including steering



	2025 Acura Integra Type S	2025 Audi S3	2025 Cadillac CT4-V	2025 Lexus IS500 F Sport
Powertrain				
Engine	turbocharged DOHC 16-valve inline-4 122 in^3 (1996 cm^3)	turbocharged DOHC 16-valve inline-4 121 in^3 (1984 cm^3)	turbocharged DOHC 16-valve inline-4 166 in^3 (2727 cm^3)	DOHC 32-valve V-8 303 in^3 (4969 cm^3)
Power, hp @ rpm	320 @ 6500	328 @ 6500	325 @ 5500	**472** @ 7100
Torque, lb-ft @ rpm	310 @ 2600	295 @ 2000	380 @ 2000	**395** @ 4800
Redline	7000 rpm	6800 rpm	6000 rpm	7300 rpm
lb per hp	10.0	10.9	11.1	**8.4**
Driveline				
Transmission	6-speed manual	7-speed dual-clutch automatic	10-speed automatic	8-speed automatic
Driven Wheels	front	all	rear	rear
Final-Drive Ratio:1	3.84	4.47/3.30*	2.85	3.13
Chassis				
Suspension	**F:** struts, coil springs, anti-roll bar **R:** multilink, coil springs, anti-roll bar	**F:** struts, coil springs, anti-roll bar **R:** multilink, coil springs, anti-roll bar	**F:** struts, coil springs, anti-roll bar **R:** multilink, coil springs, anti-roll bar	**F:** control arms, coil springs, anti-roll bar **R:** multilink, coil springs, anti-roll bar
Brakes	**F:** 13.8-in vented disc **R:** 12.0-in disc	**F:** 14.1-in vented, cross-drilled disc **R:** 12.2-in vented disc	**F:** 12.6-in vented disc **R:** 12.4-in vented disc	**F:** 14.0-in vented disc **R:** 12.7-in vented disc
Stability Control	traction off	fully defeatable, competition mode, launch control	fully defeatable, traction off, competition modes	partially defeatable, traction off
Tires	Michelin Pilot Sport 4S 265/30ZR-19 (93Y) DT1	Goodyear Eagle F1 SuperSport 235/35R-19 91Y R0	Continental SportContact 6 SSR 235/40R-18 95Y TPC	Bridgestone Potenza S001L **F:** 235/40R-19 92Y **R:** 265/35R-19 94Y

**First ratio for gears 1, 4, and 5; second for gears 2, 3, 6, and 7.*

weight, throttle sensitivity, engine sound, brake response, and the added layer of Performance Traction Management that tailors the stability- and traction-control systems to your liking (save your favorite combo with the V button). Really, it's more than you need, although the steering feedback is best in the sportiest mode, even if that didn't eliminate the wander zone on-center. The relatively forgiving 40-series rubber on 18-inch wheels serves up a placid highway ride, but headrests that jut too far forward diminish driver comfort.

The Lexus's ride is just as good, and you're enjoying it while sitting in what feels like your favorite club chair and listening to its dulcet octet. Secure and fluid in fast sweepers, this relatively weighty bruiser felt less willing in the tight sections, where initial compliance that enables ride suppleness has the Lexus moving around more on its suspension than the other cars. In quick transitions, the IS500 feels heavier than the others, and at nearly 4000 pounds, it is. Its long-travel brake pedal feels soft, and the IS500's stability control was also the most intrusive, though it can be switched off (at a stop).

The Integra's firm springs and dampers will set your softer bits jiggling on the freeway (particularly in Sport+ mode), but otherwise, we found little to criticize. The chassis is reactive and predictable, with fantastic, direct, and quick-feeling steering no matter the drive mode and a nice firm brake pedal that earned universal

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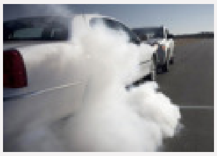
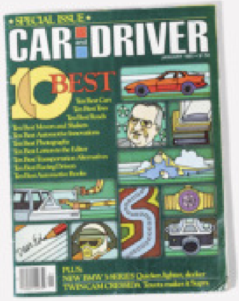


NOW RENT THIS
In the March 2011 issue, we attempted to confirm whether P.J. O'Rourke was right when he said, "Nothing handles better than a rented car." So, we put four rentals through a series of lighthearted comparison "tests," including parking-brake turns and backward acceleration (a test that led to the discovery that a Lincoln Town Car can do 63 mph in reverse). Rental companies weren't amused with our goofball rental-car Olympics, and several lifetime bans were threatened.



YOU'RE THE BEST AROUND
In 1983, the *Car and Driver* brain trust created our most famous comparison test: 10Best. Some rags award a single car, but more is better, so we award 10. Our annual trophy for automotive excellence is truly unique, however, because winning models return the following year to defend against the newest. A Y2K glitch inspired us to confer honors on trucks and SUVs as well, but initially only five. Now, 10Best Trucks lives alongside 10Best Cars.

praise. Mass, or a lack of it, is the central theme here. At 3206 pounds, the Acura is some 300 to 800 pounds lighter than the others. On sticky Michelin Pilot Sport 4S rubber, it flirts with 1.00 g on the skidpad, beating the next-best Audi by 0.04 g. You're aware the front wheels are doing the pulling, but the car puts the power down effectively and without any front-drive histrionics. The Acura was unquestionably the one we all wanted to drive in the canyons.

AND THE WINNER IS . . .

The Acura Integra Type S gets the win, and fans of cheap speed will delight in the fact that the least expensive car takes the crown. Despite its acceleration deficit, the Acura comes out on top by virtue of its lively and rewarding handling, excellent steering feel, and confidence-inspiring brakes. The well-finished interior was perhaps an unexpected strong point—though its sister Honda Civic Type R's seats would be a welcome

TEST RESULTS	**2025 Acura Integra Type S**	**2025 Audi S3**	**2025 Cadillac CT4-V**	**2025 Lexus IS500 F Sport**
Acceleration				
30 mph	2.0 sec	**1.6 sec**	**1.6 sec**	1.7 sec
60 mph	5.1 sec	**4.2 sec**	4.7 sec	4.3 sec
100 mph	12.7 sec	10.6 sec	12.2 sec	**10.4 sec**
140 mph	29.0 sec	24.0 sec	28.2 sec	**21.3 sec**
1/4-Mile @ mph	13.8 sec @ 104	**12.8 sec** @ 109	13.3 sec @ 104	**12.8 sec** @ **112**
	Results above omit 1-ft rollout of 0.3 sec.	*Results above omit 1-ft rollout of 0.3 sec.*	*Results above omit 1-ft rollout of 0.2 sec.*	*Results above omit 1-ft rollout of 0.3 sec.*
Rolling Start, 5–60 mph	5.9 sec	5.2 sec	5.3 sec	**4.7 sec**
Top Gear, 30–50 mph	10.8 sec	**2.6 sec**	2.8 sec	3.0 sec
Top Gear, 50–70 mph	6.5 sec	3.6 sec	3.4 sec	**3.3 sec**
Top Speed	**167 mph** (mfr claim)	155 mph (mfr claim)	164 mph (mfr claim)	149 mph (mfr claim)
Chassis				
Braking, 70–0 mph	153 ft	**152 ft**	156 ft	155 ft
Braking, 100–0 mph	305 ft	**303 ft**	312 ft	312 ft
Roadholding, 300-ft Skidpad	**0.99 g**	0.95 g	0.92 g	0.91 g
Weight				
Curb	**3206 lb**	3575 lb	3607 lb	3983 lb
Distribution, F/R	61.4/38.6%	57.4/42.6%	52.3/47.7%	54.4/45.6%
Fuel				
Capacity/Octane	12.4 gal/93	14.5 gal/91	**17.4 gal**/91	**17.4 gal**/91
EPA Comb/City/Hwy	24/21/28 mpg	**26/23/31 mpg**	23/20/29 mpg	20/17/25 mpg
C/D 500-mi Trip	**22 mpg**	**22 mpg**	19 mpg	17 mpg
Sound Level				
Idle/Full Throttle	44/83 dBA	43/**79 dBA**	45/80 dBA	**42**/84 dBA
70-mph Cruise	70 dBA	**67 dBA**	68 dBA	**67 dBA**

Tested by Dan Edmunds and Dave VanderWerp in California City, CA

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ANGER MANAGEMENT
For our February 2008 issue, Michigan's Drummond Island became our Thunder-dome: Nine compact SUVs entered, but only one emerged undamaged. Jeep was unhappy that we drowned a Liberty in what turned out to be substantially more than a puddle. Fortunately, the Ford Escape we rented had comprehensive coverage, which paid for the lost bumper.

CAR AND DRIVER
It's Sink or Swim for Land Rover and the New Defender

MORE ANGER MANAGEMENT
In the November 2020 issue, for the Land Rover Defender's rebirth, we returned to Drummond, but some local cried foul, saying we drove off-trail and into Lake Huron. But we were, as usual, right: The water was so high that the marked trail went directly through the flooded area.

addition. It's also practical: Its rear seat is livable for two, and its cargo hold is the largest by far. We loved the manual's snickity-snick shifter and rowing our own gears, but that didn't prove to be a huge factor overall.

The S3's strong objective performance pushed it into second place, abetted by good fuel economy, sporty good looks, and an abundance of features and amenities. We didn't embrace it as much as we might have, though, mostly because its steering and handling didn't cultivate much of a connection, and its interior felt like function yielded to form. It also lost points for its cramped back seat, an outgrowth of the Audi's smallest overall size.

Given our affection for the CT4-V Blackwing, we might have expected a higher finish for the just-plain CT4-V. But while this turbo four gets the job done, its coarseness and lack of flavor give the impression that it's unhappy in its work. Cadillac also has had several years to upgrade this interior yet has failed to do so, which is particularly unfortunate given the CT4's attractive exterior. The CT4-V has a good chassis, but these minor issues dragged it down.

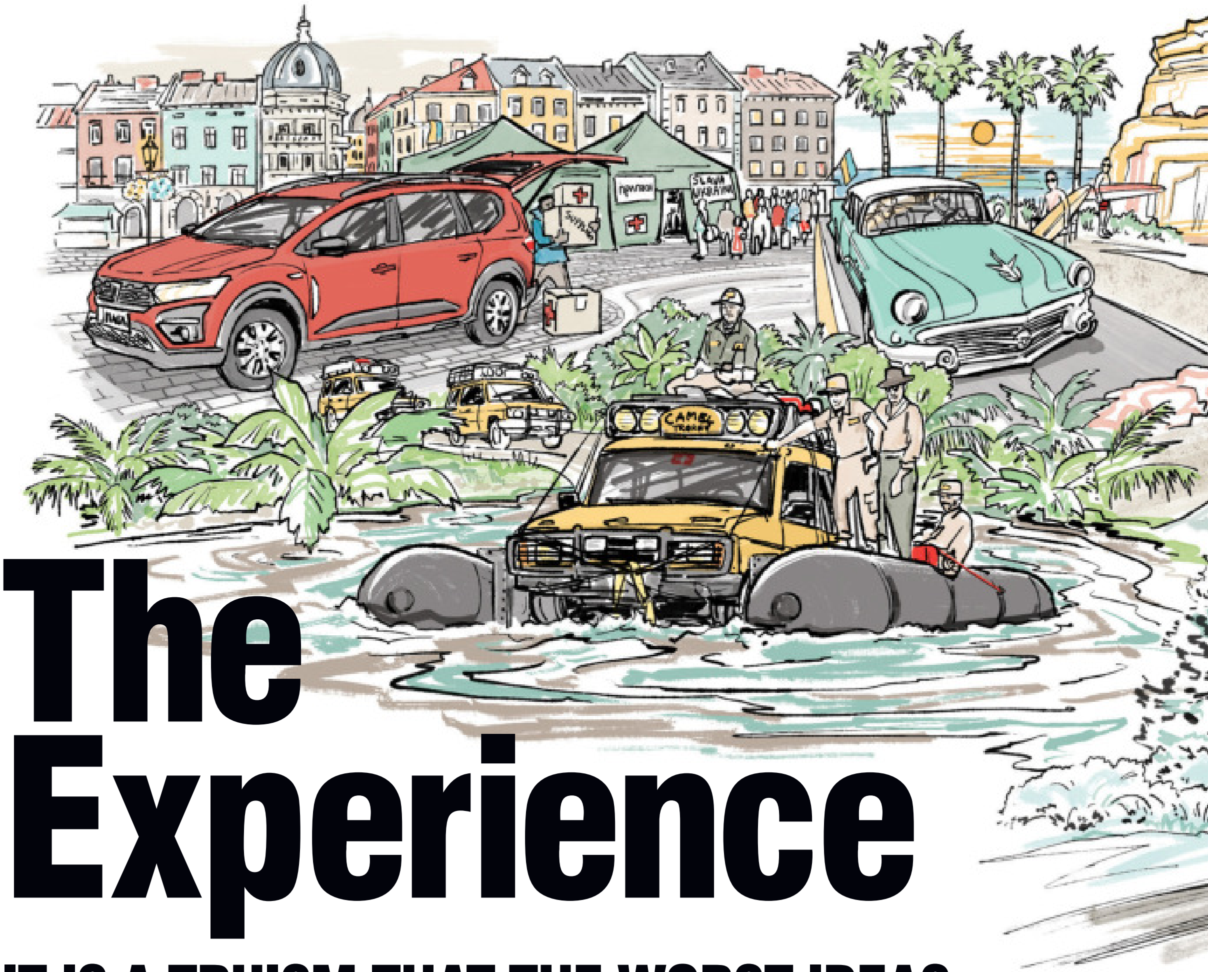
The Lexus is an emotional play and has plenty of appeal despite its last-place finish. If you can afford to feed it, the powerful, rev-happy V-8 is a jewel. It burbles a seductive low rumble at startup or when you're just prowling around a parking lot, then flips to a hair-raising intake wail when you stand on the gas. The best-in-test seats were also inviting, but the Lexus's advantages were largely undone by its lofty as-tested price. Next to the others, the IS500 comes across as a cushy, high-powered cruiser, which isn't the worst persona to have.

Even though the popularity of sports sedans has decreased, this automotive form continues to evolve, improve, and captivate us. Maybe that's why we're still so enamored of this genre after all these years. ▪

Final Results

	VEHICLE												**POWERTRAIN**						**CHASSIS**						**EXPERIENCE**	**GRAND TOTAL**
	DRIVER COMFORT	ERGONOMICS	REAR-SEAT COMFORT	REAR-SEAT SPACE*	CARGO SPACE*	FEATURES/AMENITIES*	FIT AND FINISH	INTERIOR STYLING	EXTERIOR STYLING	REBATES/EXTRAS*	AS-TESTED PRICE*	SUBTOTAL	1/4-MILE ACCELERATION*	FLEXIBILITY*	FUEL ECONOMY*	ENGINE NVH	TRANSMISSION	SUBTOTAL	PERFORMANCE*	STEERING FEEL	BRAKE FEEL	HANDLING	RIDE	SUBTOTAL	FUN TO DRIVE	
Maximum points available	*10*	*10*	*5*	*5*	*5*	*10*	*10*	*10*	*10*	*5*	*20*	***100***	*20*	*5*	*10*	*10*	*10*	***55***	*20*	*10*	*10*	*10*	*10*	***60***	***25***	***240***
1. Acura Integra Type S	9	**9**	**3**	**5**	**5**	2	**8**	**9**	**8**	0	**20**	**78**	15	3	**10**	7	**10**	**45**	**20**	**10**	**9**	**10**	8	**57**	**24**	**204**
2. Audi S3	8	8	2	4	1	**10**	**8**	7	**8**	**1**	18	**75**	**20**	3	**10**	7	8	**48**	19	7	8	8	8	**50**	**19**	**192**
3. Cadillac CT4-V	8	8	2	3	2	8	**8**	6	**8**	**1**	**20**	**74**	18	**4**	7	6	7	**42**	18	8	8	9	**9**	**52**	**20**	**188**
4. Lexus IS500 F Sport	**10**	7	**3**	3	2	7	**8**	7	7	**1**	15	**70**	**20**	**4**	5	**10**	8	**47**	18	8	7	8	**9**	**50**	**20**	**187**

These objective scores are calculated from the vehicles' dimensions, capacities, rebates and extras, and/or test results.



The Experience

IT IS A TRUISM THAT THE WORST IDEAS OFTEN MAKE THE BEST STORIES.

WHY OWN A VEHICLE unless it transports you to scenery, wildlife, and a carjacking or two? The experiences we've had over seven decades appear, quite often, to have been risky, at odds with common sense, and deleterious to the car or the driver. Nevertheless, we do it in the interest of returning to the office with a great expense report and an even greater story.

Nothing put us off the map like our tour of Baja California. It was a comparison test, but the adventure—part Mexican telenovela, part police procedural—is what's remembered, not the finishing order. And to celebrate hydraulic diarrhea, we hydrolocked a Datsun Maxima in a flash flood.

Thanks to a cartographer named Poppet Seymour, we drove a Land Rover Defender 90 and hiked in Utah to what was deemed the most remote site in the Lower 48. We nervously occupied an up-armored Humvee on patrols with gunners in Kosovo. One winter, we bounced five minivans up the Haul Road to Deadhorse, Alaska, ruining tires and windshields on nearly all. More recently, contributor Jonathon Ramsey drove a Dacia Jogger to Poland's border with Ukraine to deliver donations for people from the war-torn country.

Sometimes we go searching for a good time. Larry Griffin, then an associate editor, drove a $105K slant-nose Porsche DP 935 to his high school reunion in Kansas and failed to find any, uh, action. Then there was contributor P.J. O'Rourke, who took 11 days to motor from Florida to California in a 1956 Buick, during which protracted spell his alcohol consumption burgeoned. A few years later, in the June 1980 issue, he wrote about driving a red Ferrari 308GTS from New Jersey to L.A. for it to feature in something called "Don't Eat the Snow in Hawaii," the pilot of *Magnum P.I.*

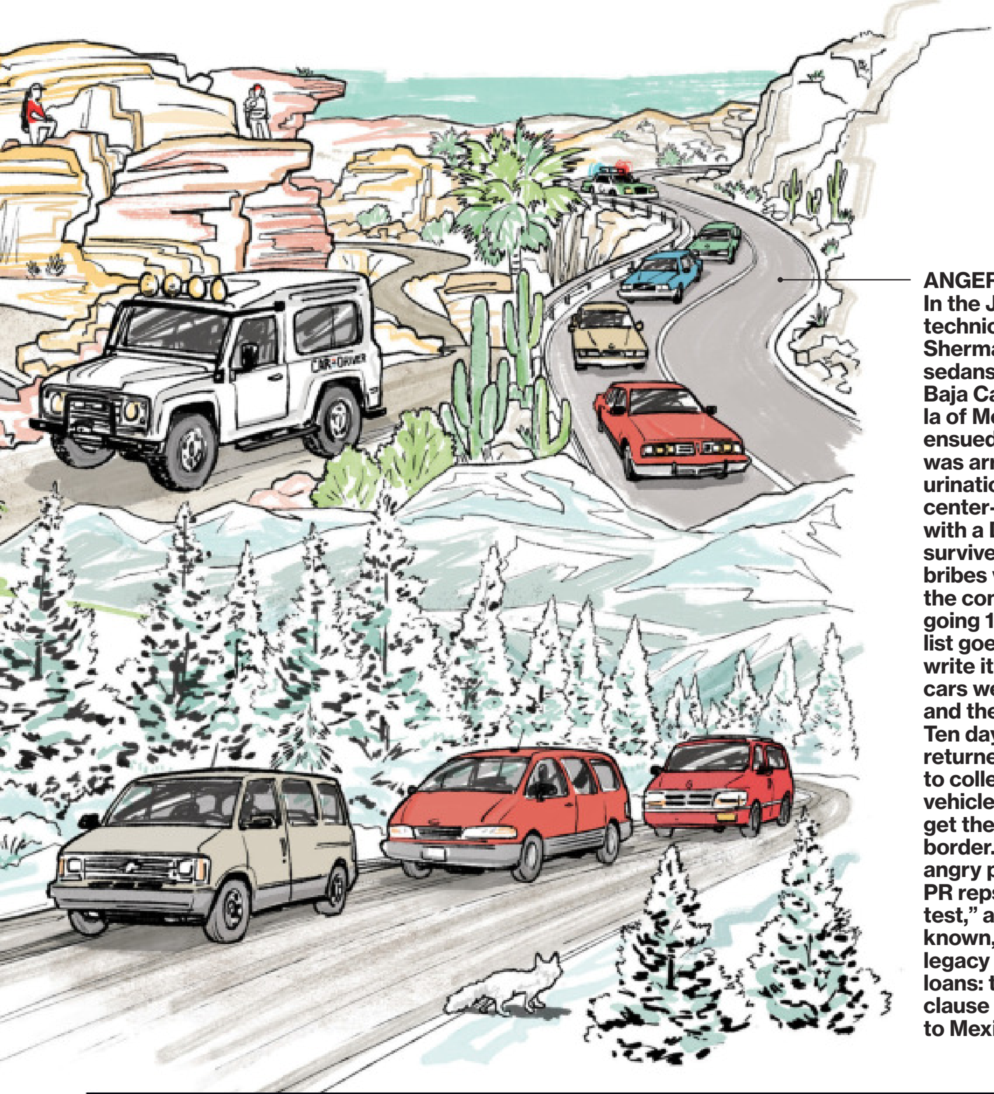
After a couple of months of off-road training, John Phillips nosed around Sabah on the island of Borneo in a Land Rover Discovery as part of the first and only American team to win the Camel Trophy. We became inured to leeches and savored the weight-loss promise of intestinal worms.

Just so you grasp the brain matter that we throw at these doggles of boon, consider: For the June 1995 issue, associate editor Marty Padgett joined a Joie Chitwood thrill show. Prone on the hood of an Oldsmobile station wagon, he plunged through a burning fence. His reaction: "Head trauma. *Very* cool."

ILLUSTRATION BY BRETT AFFRUNTI

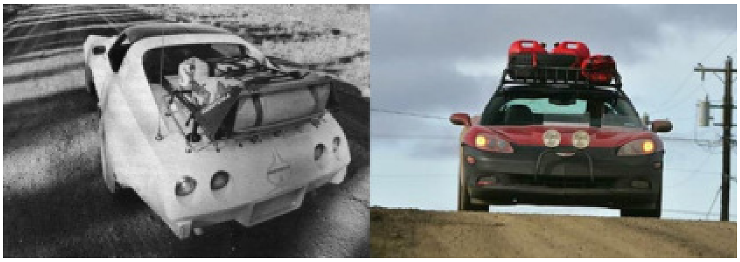
I'M ALSO 70!
Best known for being the car of choice for eccentric television police lieutenant Frank Columbo, the Peugeot 403 was born in 1955. It was available from the factory as a sedan, a station wagon, a pickup, a van, or a convertible. Under its Pininfarina-designed sheetmetal is a largely conventional rear-wheel-drive car with a small four-cylinder engine. With (at most) 65 horsepower, the 403 wouldn't get anywhere fast, just like Columbo solving a crime. The 403 remained in production until 1966.

DEAD ENDS
In 1940, sealed-beam headlights became ubiquitous on new cars, and for decades, anything other than a 7.0- or 5.8-inch round light would not pass muster with regulators. Designers turned to hiding the circles, famously in a pop-up design. These hidden lights remained after restrictions on headlamp type loosened in the mid-1980s, but further oversight effectively banned them in the name of pedestrian safety. The 2004 Chevrolet Corvette and the 2004 Lotus Esprit were the last models sold stateside with poppers.



ANGER MANAGEMENT In the July 1983 issue, technical director Don Sherman took eight sedans down the rugged Baja California peninsula of Mexico. Calamity ensued: Brock Yates was arrested for public urination, Csaba Csere center-punched a cow with a Dodge 600ES (car survived, animal didn't), bribes were made when the convoy was caught going 100 mph, and the list goes on. You couldn't write it. Yates did. The cars were left behind, and the crew flew home. Ten days later, Sherman returned with a team to collect the surviving vehicles and managed to get them back across the border. Following many angry phone calls from PR reps, the "Baja torture test," as it came to be known, had an enduring legacy on press-car loans: the addition of a clause prohibiting travel to Mexico.

YUKON GOLD



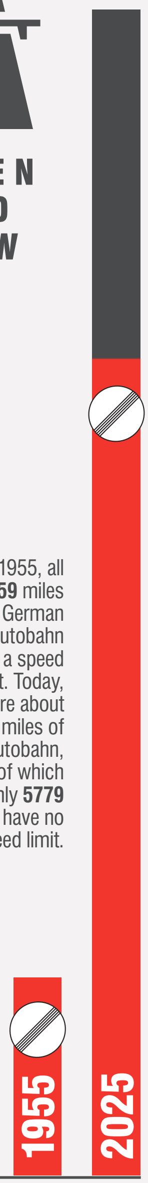
In the spirit of taking sports cars somewhere they rarely go, senior editor Brock Yates drove a 1976 Corvette up the muddy Alaska Highway, from British Columbia through the Yukon and into Alaska. To ensure it would get there, we modified it. "The Corvette's underbelly vitals have been shielded by steel plates; its suspension raised to clear ruts and rocks; its wheels shod in sturdy, high-traction Dunlop patrol tires," Yates wrote. "Taking this car up the Alaska Highway had a crazy appeal when first the idea arose, but now as the roads roughen and the skies begin to smear with dark, low-running nimbus formations, apprehension begins to overwhelm amusement."

Three decades later, John Phillips took a 2005 test-mule Vette on the gravelly Dempster Highway that runs northeast from the Yukon to the Northwest Territories.

"We made a few modifications," Phillips wrote. "We raised the ride height 0.75 inch; fabricated a roof rack to hold one spare front tire and two five-gallon jugs of premium unleaded; created plexiglass stone deflectors for the windshield; installed a brush guard that might or might not survive a tête-à-tête with a caribou; fitted a bra; mounted a pair of zillion-candlepower auxiliary lights that, by law, must be blazing full time on the Dempster, even during 23 hours of daily sunlight; and painted the wheels black to camouflage the hideous scars they were about to incur. But the stock Goodyear Eagle F1s—18 inches fore, 19 inches aft—stayed put. No pansy M+S-rated rubber for us, because, well, we like a challenge and no one would give us a free set." Despite its summer shoes, the Vette completed the long and dirty trip.

THEN AND NOW

In 1955, all **1359** miles of German autobahn lacked a speed limit. Today, there are about **8210** miles of autobahn, of which roughly **5779** miles have no speed limit.



BIG IN JAPAN We've driven cars all over the world, but the Nissan Skyline GT-R test from December 1995 stands out because we rarely get to drive on Japanese roadways. That car's cult following was still fringe in the U.S., but in the next decade, the *Fast & Furious* franchise would make the GT-R a star.

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STEER

IT UP!

If you like your racing with a side of jerk chicken, reggae music, and killer views, head to the Carnival of Speed in Jamaica.

by Ezra Dyer
photography by Roy Ritchie

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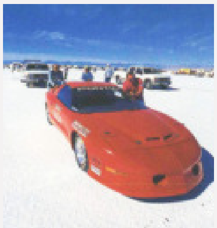
I ***LIKE TO THINK*** I'm an adventurous tourist, if not on the level of Anthony Bourdain, then at least more ambitious than your average Croc-wearing American sunburn victim. And yet, it took three trips to Jamaica before I heard about Dover Raceway, a 1.6-mile road course up in the hills between Montego Bay and Ocho Rios. It turns out I've stayed about 15 minutes away, in the ironically named Discovery Bay, without realizing that a legendary Jamaican racetrack was right there in the backyard. Which, in my defense, would have first required realizing that this beautiful island nation of 2.8 million people has legendary racetracks, a matter on which I was regrettably ignorant for far too long. So this year, I decided to attend the Jamaica Race Drivers Club (JRDC) Carnival of Speed at Dover Raceway in St. Ann and find out what circuit racing looks like, Jamaica-style.

Actually, it was last year when I decided to attend a Jamaican race. But then Hurricane Beryl walloped the island, and an outbreak of dengue fever followed. The chairman of the JRDC board of directors fell ill, and the regular quarterly race schedule was put on hold.

But the schedule is back on track for 2025, and I land in Montego Bay on Easter Sunday, eager to go watch the practice rounds the day before the main event. However, I've made a rookie mistake: thinking I can rent a car on an island on a holiday weekend. Yeah, I have a reservation, but no, they have no cars. I get a bus to my hotel and eventually find a fellow named Derek willing to make the trek to Dover the next day. This is an all-day kind of thing, so when we arrive on the appointed morning, I buy Derek a pit pass. Based on the way he wheels a Toyota Coaster bus along the back roads, he might have a future in racing.

We cross to the infield over a metal bridge. At 8 a.m., the place is jamming. The atmosphere: beach party, but at a racetrack. Food vendors are firing up their grills, spectators are claiming spots on the bluffs overlooking the first few corners, and a DJ is playing music loud enough to set off my Apple Watch's Loud Environment



FLIPPIN' THE 'BIRD
Sometimes adventure finds you when you're flat-out looking for it, as evidenced by our February 1996 issue. Csaba Csere, sick with "salt fever," attempted to break a record at Bonneville Salt Flats in a fourth-generation Pontiac Firebird modified by John Lingenfelter. The car got loose around 220 mph, spun, then flipped. A CT scan showed no broken bones and all wiring intact. Fever cured.

HINDSIGHT
In 2007, Tony Quiroga, then an associate editor, rode shotgun in the Eye Rock 500, a race for blind drivers. As you may expect, there were plenty of collisions, including one with a tow truck sent out to deal with another crash. We don't think the race has been run since.

To get to Dover Raceway from Montego Bay, head out of town and take a right at Discovery Bay, then drive up into the hills about 15 minutes until you see a guy selling Red Stripes by the side of the road. Oliver Townsend (right) fields a Civic that battles the Evos and Ian Galbraith's yellow Subaru, the Flairy Canary.

warning and a car alarm or two. The shimmering blue Caribbean frames the sweeping left-hander at the end of the back straight. Not a bad spot to catch a race.

Down in the pits, the first racer I encounter is Mario Scott, who's wrenching on his 1971 Ford Escort, a rear-drive coupe that's now powered by a 225-hp Honda K24 four-cylinder. I ask if he's nervous. "Right now I'm nervous," he says. "But when the green flag drops, no more nervousness." The Ford's Honda engine is bolted to a Toyota transmission borrowed from a Hilux pickup, and Mario allows that he'd like closer gear ratios. But, he says, "with a race car, it's always something." A truism that transcends time and place.

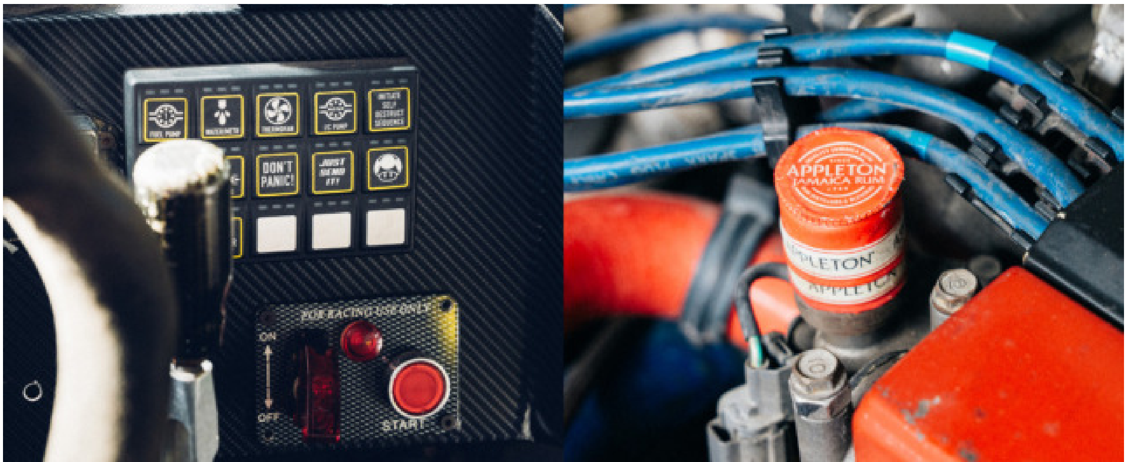
The Scott family is well represented here, with Mario's nephews Raymar and Ricardo readying their Civics on the other side of the pits. Today is the first time the brothers will be on track at the same time racing against each other, albeit in different classes. Raymar shows me around his car's engine bay and explains—or rather, defends—his choice of a Honda B-series engine instead of the ubiquitous K. "The K-series will make more power, but the B makes better power, all across the powerband," he says. Raymar was the Improved Production 1 class champion last year, so I'll take his word on that.

In an adjacent stall, Gary "Rambo" Barrett is also running a B-series in his Civic, an original Type R that's now turbocharged. I ask how much power it's making—a question that would doubtlessly draw cagey, evasive answers at most tracks in the U.S.—and Barrett replies, "We dynoed it three weeks ago, and we stopped at 404 horsepower. I just want to keep it reliable." His underhood flair includes a pair of Appleton Estate Jamaica Rum caps over the VTEC solenoid,

and the exterior radio antenna connects to a cable that pulls the battery kill switch on the dash. Barrett just turned 70 and doesn't live in Jamaica, commuting here from the Cayman Islands for races. Don't complain to him about how far you have to drive for track days.

Barrett started coming to Dover after his favored Cayman drift track closed. Drifting is also big in Jamaica, as are drag racing, motorcycle racing, and rallying. I make my way to the race control area and meet Michelle Laidlaw, who was the first female circuit motorcycle racer in Jamaica when she rode a Honda CBR600RR here at Dover. "I've done rally," she says. "The only thing I don't like is drag racing. Ten seconds? I need more than that."

Rugie Misir's car has a Don't Panic! button, perhaps because it's powered by a turbocharged Hayabusa engine with a homemade anti-lag system. Gary "Rambo" Barrett dresses up his VTEC solenoid with a pair of rum caps.



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NEVER SAY DIE
After the apocalypse, a few things will survive: cockroaches, Twinkies, and the original Chevrolet Express and GMC Savana twins. These ancients trace their roots to 1996, and both are still sold today. The oldest single-generation car on sale today is the Tesla Model S, which made its debut in 2012.

Bobby Marshall—champion rally driver, car builder, and today's pace-car pilot—walks over, and the two of them recount a wild ride in a Trinidad rally, where a loose battery terminal caused a fire and they finished the race with Bobby steering with one hand and holding down the battery cable with the other while Laidlaw, the navigator, shifted gears. Of the Dover crowd, Laidlaw says, "You'll never meet a more devoted bunch of racers. No matter what, they're gonna race." She heads to the observation tower, because she's one of the announcers and the races are about to start.

Just before they do, Marshall gives me a tour of the track in the Nissan X-Trail pace car. The circuit was built by the late Alfred Chen in the 1980s, and his house still stands on a cliff overlooking the front straight. The track was dirt at first, then aggregate, then double surface dressing, a form of rather granular pavement. The track grounds got a glow-up after the hurricane, but this is no country-club road course, as I can tell

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I'M ALSO 70!
The text-message transcript of Ezra Dyer wishing his dad a happy 70th birthday.
Ezra Dyer: Happy 70th!
Charlie Dyer: Thank you. Pretty sure I'm not 70 yet, tho.
ED: I thought you were born in 1955.
CD: Oh, sh—

SUCH GREAT HEIGHTS
For our February 1995 issue, John Phillips, then executive editor, took an '85 Toyota Land Cruiser most of the way from Lhasa, Tibet, to Kathmandu, Nepal, experiencing altitude sickness in the shadow of Mount Everest. For this off-tarmac journey, he relied on forged travel documents, a young Tibetan man named Passang, and puppy dewormer, because apparently it works on humans too.

when we arrive at the first right-hander, which runs downhill with a tall stone bluff not far past the edge of the pavement. Raymar told me this is the toughest section of the track, off-camber and demanding precision to maintain speed. (It's also directly in front of most of the spectators, adding to the pressure.) But from my seat, all the corners look like the toughest corner.

We approach the pit-lane entrance, and Marshall's rally-driver persona emerges as he makes way for the pack of jumped-up, snorting race cars, hustling the X-Trail back behind the wall along the straight. We jump out and head to the officiating booth above the start line, arriving in time to see the first cars diving toward the bluff. It's immediately evident that the racing is serious, door-to-door, but nobody's trying to wreck anyone—at least, not on purpose. I decide to root for Mario and his Escort, with its Rasta livery and tail-out antics on the hairpins, but the field is full of interesting cars and personalities.

There's a father-daughter team, Rugie and Sara Misir, running a turbocharged Hayabusa-powered tube-frame car. Behind the wheel of another 'Busa-powered race car is 18-year-old Zander Williams, who started driving that monster before he even got his road license. Kyle Mais is competing in what's dubbed the K-Rage, a Honda-powered Mitsubishi Mirage built by Marshall. And Oliver Townsend is running a 1993 Civic that has a tube-frame front end, a wooden front undertray, and a turbo the size of a Red Stripe keg. "It's a project that's gone through a lot of phases," he says. "It started out less modified." I'm beginning to realize that Jamaicans are prone to understatement.

As many participants as there are, turnout has declined since COVID and Hurricane Beryl, and there are no Radicals or Ultimas, cars that duked it out at Dover in years past. A banner opposite the starting line commemorates Senna Summerbell's 1:14.6 record lap, set in 2022 in a V-8-powered Radical going an average speed of

PULL
POWER
ShUT OFF
STOP

Dover's topography makes for easy spectating: Just grab a rock on the bluff. Though we saw one innovative onlooker arrive with a full set of kitchen chairs on the roof of his car.

Ingenuity abounds in the Dover pits. Need an exterior battery kill switch? Connect the radio antenna to the dash control.

78 mph. I'm watching the MP3 cars pour down off the straight when I realize that the guy on the banner is standing next to me, a spectator himself today.

Summerbell, now the ripe old age of 23, shows me an in-car video of his record lap, and the scenery scrolls by like the video is playing at two-times speed. "That car on this track is the most frightening thing you could ever do," he says. "A lot of Jamaicans are so good because this track is so difficult. It has everything."

Well, except for a 450-hp Radical or two, but even the production-based cars here today are clocking impressive laps. There's a great Improved Production battle between Ian Galbraith's yellow Subaru Impreza (a.k.a. the Flairy Canary) and Sebastien Rae's Mitsubishi Evo, and another between Sheldon Morgan's Evo and Townsend's mutant Civic—Morgan's best lap is 1:25.3, while Townsend's is 1:25.5. During one race, with Townsend leading, it looks like he intentionally slows down to let Morgan move up through traffic to catch him, leading to some of the best racing of the day. But after the race, Townsend says that's not at all what he was trying to do. "I thought I had a big lead, so I figured I'd conserve tires," he says. "Then I heard the blowoff valve in my ear!"

Rugie's car spent most of the race broken down next to the track, occasioning a yellow flag on that corner. Dover has nine flag stations, and the track uses a new system called E-Flag Racer that allows officials to throw virtual flags instantly via an app—each car has a phone running the app, so if there's an incident up around a corner, drivers get a warning before they can see the physical flagger. Sometimes cars go off and local yellow flags are thrown, but the race goes on. It's clever, and it seems to work well. There's a bit of rubbin'-is-racin' contact, but no serious wrecks.

After that race, I head to the Misirs' garage to find out what happened. "It was just a fuel-pressure problem," Rugie says. "It's already fixed." Normally, Sara is the driver and Rugie is the crew chief, but today he is driving. They have a good sense of humor about the setbacks inherent in racing—the car's dash panel has buttons marked After Burner, Just Send It!, and Initiate Self Destruct Sequence. Another is marked Anti-Lag, a system that this car actually has, via a repurposed leaf-blower motor jacked up to 1800 volts. Rugie plumbed that to the turbocharger so that it's making 10 pounds of boost no matter what. He also rigged the blowoff valve to dump back around and spin the compressor, so even dumping boost makes boost. Whatever the problems of the day, turbo lag will not be among them.

Next door, as the final race of the day looms, things aren't going quite so well for Townsend. His Civic might have a bad crankshaft damper, and he doesn't have the tool to pull it, so his team is asking around—this is the kind of racing where competitors will help one another out. Townsend is surprisingly placid given that his day might be over. A mechanic tells Townsend that it looks like nobody else brought what he needs either. "If we don't find the tool, it's okay," he says. "I'm here. I'm happy." I've located the philosophical intersection between auto-racer competition mentality and no-problem Jamaican chill: Race hard unless you can't, and then don't worry about it.

In fact, the people who seem to be having the most fun are the racers who aren't competing. Peter Rae, who used to race a Mazda RX-7 and is building an RX-8, shakes hands with a twist and declares, "That's the rotary handshake!" Sara doesn't seem too broken up about her dad sussing out their car's mysteries, as she's already thinking about her next races, which are in a series for electric hydrofoil boats. And Summerbell, true to nominative determinism, has moved up to compete in the TCR European Endurance touring-car series. Dover is a stepping stone for some racers, an end unto itself for others. And for everyone else, it's a helluva show.

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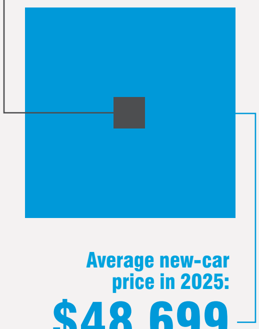
CUTTING CARBS
Back in 1994, just as we were pouring out a glass of Crystal Pepsi to mourn the death of Nirvana frontman Kurt Cobain, retail automakers had completed the switch from carburetors to standard fuel injection. Well, all but Isuzu had made the switch. Its rear-drive base Pickup was the last holdout. It came with an anemic 2.3-liter inline-four, cranking out 96 horses with a two-barrel carb doling out the fuel.

THEN AND NOW

Average new-car price in 1955:
$2506
($29,997 in 2025 dollars)



Average new-car price in 2025:
$48,699

Here testing director Dave VanderWerp proves driver-assist features work with no driver. Yes, that's a hockey stick attached to the brake pedal. Safety first.

The Analysis

DIGGING DEEP TO FIND ANSWERS.

CURIOSITY MAY HAVE killed the cat, but it hasn't taken us down yet. Delving into big subjects is a key thread in the fabric of *Car and Driver*. Sparked by skepticism and the joy of exploration and discovery, we love to dive into technical matters to separate truth from popular opinion and myth from reality. Our engineer-led testing team makes *C/D* uniquely equipped to generate and examine objective and subjective data and make sense of the rules, the laws, and the science behind questions.

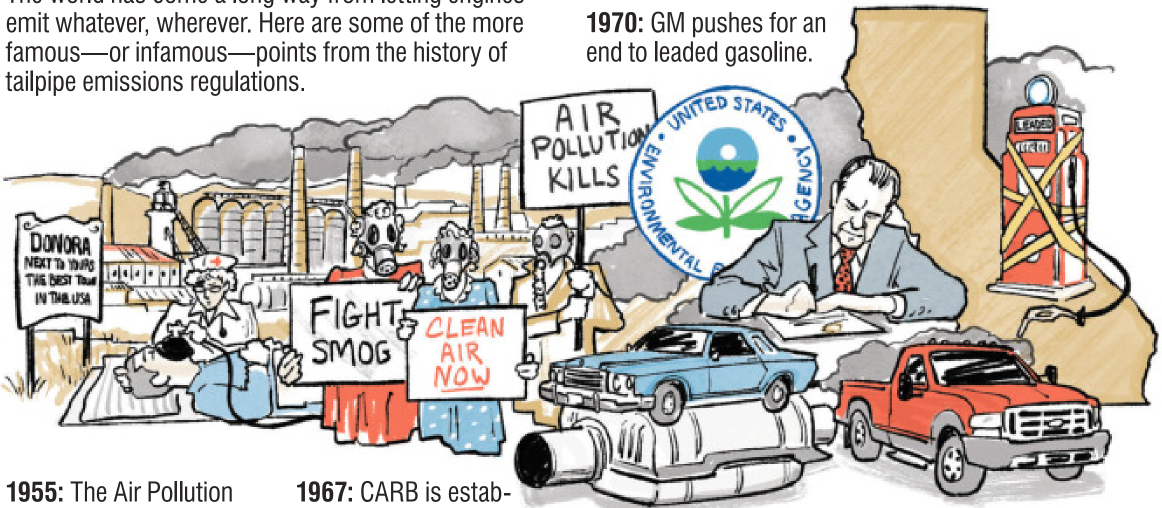
Over seven decades, we've probed major topics affecting enthusiasts and all drivers. In 2017, with a little help from Malcolm Gladwell, we explored the future of self-driving cars in a feature that inspired the 2019 documentary film *Autonomy*. More recently, we analyzed how engineering advancements affect vehicle ride quality, and in our last issue, we tested five all-weather tires to determine whether they really are a single-tire solution for those of us who own snow shovels. When things change, for better or worse, we find out why. When BMWs lost steering feel, we tested and investigated to find the cause. When Toyota issued a recall to address claims of vehicles speeding up without driver intervention, we researched unintended acceleration. We've searched for and found the best-handling car for sale.

The proliferation of advanced driver-assistance systems and our annoyance with getting admonished by them prompted us to investigate whether these features are actually making our cars safer. For the technical analysis on the following pages, we invited contributor (and former *C/D* editor-in-chief) Csaba Csere to examine the technology, research the statistics, and interpret the findings to get some answers.

CARB AND RIM: MICHAEL SIMARI; EMISSIONS ILLUSTRATION: BRETT AFFRUNTI; WINNERS ILLUSTRATION: CHRIS PHILPOT

RULES FOR FOSSIL FUELS

The world has come a long way from letting engines emit whatever, wherever. Here are some of the more famous—or infamous—points from the history of tailpipe emissions regulations.



1955: The Air Pollution Control Act becomes the first federal legislation related to air pollution.

1963: The Clean Air Act establishes the first federal program to control air pollution.

1967: CARB is established and gears up to set higher standards for California . . .

1967: . . . while the Air Quality Act of 1967 prevents other states from doing the same.

1970: Richard Nixon establishes the EPA and signs the second Clean Air Act into law.

1970: GM pushes for an end to leaded gasoline.

1971: EPA fuel-economy testing begins.

1975: The catalytic converter kick-starts the Malaise Era.

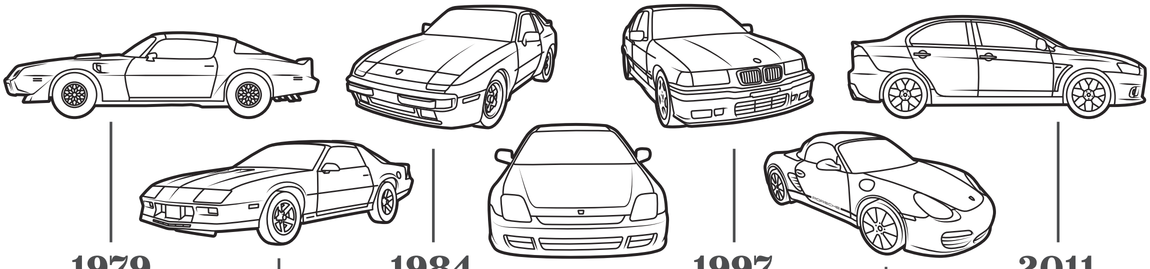
1990: California begins its zero-emission-vehicle mandate.

1996: Leaded gasoline is banned for highway use.

1999: Tier 2 standards seek to regulate SUVs and light-duty trucks in the same way as cars.

HARD TO HANDLE
Surrounding a Vantage cigarette ad in the September 1979 issue was the first of our best-handling-car tests. In that initial foray, limited to American cars for some reason, the Pontiac Firebird Trans Am beat out three other General Motors entries (including a C3 Corvette) and a Fox-body Mercury Capri for the win. The last installment of the best-handling franchise was in 2011. For that test, we got serious about data collection and partnered with Cayman Dynamics, an independent chassis consultant, and nerded out on instrumentation and numbers, with graphs for everything from steering response and effort to body roll. The Mitsubishi Lancer Evolution MR emerged on top. Some have proposed a best-handling-EV competition and maybe one for SUVs. Cooler heads believe that those are bad ideas.

BEST-HANDLING WINNERS



1979 PONTIAC FIREBIRD TRANS AM (DOMESTIC CAR)

1984 CHEVROLET CAMARO Z28 (DOMESTIC CAR)

1984 PORSCHE 944 (IMPORT CAR)

1997 HONDA PRELUDE (CAR UNDER $30K)

1997 BMW M3 (CAR OVER $30K)

2010 PORSCHE BOXSTER SPYDER (CAR UNDER $100K)

2011 MITSUBISHI LANCER EVOLUTION MR (CAR UNDER $40K)

Driverless cars are supposedly imminent.

CAR AND DRIVER

Is driving dead?

NO CAR AND DRIVER
In the magazine's 824-issue history, we have opted only a few times not to feature a car of some form on the cover. For November 2017, subscribers got this doozy highlighting a special section on autonomy edited by Malcolm Gladwell.

EXPLODER-GATE
In 2000, NHTSA began investigating the alarming number of fatal crashes involving Ford Explorers shod with certain Firestone tires. We were curious how the rapid deflation of a tire impacted handling, so we bought a well-used Explorer, had a cage installed, and fabricated a means to dump all the air out of a tire via remote control. Our findings, presented in our January 2001 issue, didn't have the answer: Rapid deflation did little to the Explorer's stability even under heavy braking. We were baffled. Eventually, Ford blamed Firestone for faulty manufacturing that led to tread separation, and Firestone blamed Ford for low recommended pressures, among other things. One certainty was that the century-old relationship started by Henry Ford and Harvey Firestone would never be quite the same.

ADS
LKA
BSM
LDW
AEB
AHB
FCW
PAEB

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SAFETY IS NO ACCIDENT

Modern cars and light trucks offer an alphabet soup of active safety helpers. Just how effective are they?

BY CSABA CSERE ILLUSTRATION BY MICHAEL BYERS

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EVER SINCE ANTI-LOCK BRAKES STARTED TO PROLIFERATE IN THE 1980s,

I'M ALSO 70!
Born in 1955, the original two-seat Ford Thunderbird roadster would evolve into a large personal-luxury car reaching nearly 19 feet in length in 1976. Reinvented as a sporty coupe for 1983, it kicked off the aero revolution at Ford. The T-Bird returned as a not-quite-a-sports-car two-seater for 2002 and then died in 2005.

our cars and trucks have come with an increasing variety of advanced driver-assistance systems, or ADAS. A modern vehicle might have electronic stability control (ESC), forward-collision warning (FCW), automated emergency braking (AEB), various devices to help keep it in its lane, adaptive cruise control, and more. But do these systems contribute measurably to safety?

A little over 20 years ago, I wrote a column examining anti-lock-braking systems (ABS) and ESC. Each worked exactly as promised, and we were—and are—big fans of both. But did they improve safety? Good studies existed for the technologies, and to our shock, we found no evidence that ABS improved safety at all. ESC, on the other hand, was a blowout winner, reducing single-vehicle fatal crashes by 40 percent in one study and 56 percent in another. Subsequent studies have largely confirmed these observations.

The difference seems to be that anti-lock brakes require a skilled driver to actualize their benefits. It turns out that many people don't press the brake pedal very hard—even when facing impending doom—nor do they try to steer around obstacles while braking. So drivers weren't taking advantage of the technology. Meanwhile, with ESC, all a driver needs to do is continue steering in the general direction

SAFETY INNOVATIONS THROUGH HISTORY

1949	1952	1959	1967	1971	1991	1992	1995	1995
Seatbelt	Automatic high-beams	Three-point seatbelt	Curve-adaptive headlights	Anti-lock brakes	Backup camera	Forward-collision warning	Adaptive cruise control	Electronic stability control

desired while the technology helps the car go where the driver intends.

Given these benefits, the National Highway Traffic Safety Administration (NHTSA) made ESC mandatory starting with the 2012 model year. This essentially made ABS mandatory too, which wouldn't make sense except that the technology was a precursor to ESC. Without the ability of ABS to control all four of a vehicle's brakes individually, ESC would be impossible.

This example highlights the difference between ADAS working as designed and actually doing any good. To learn which systems benefit safety and which don't, we searched for studies assessing the real-world performance of various technologies that have come to fruition in the past couple of decades. Here's what we found.

FORWARD-COLLISION WARNING (FCW)

These systems use radar or other sensors to measure the current and projected distance between your vehicle and the one in front of you, as well as the speed of both vehicles. If the software determines that you're likely to run into something, it warns you in some fashion and, in some vehicles, precharges the braking system.

According to a 2017 study by the Insurance Institute for Highway Safety (IIHS), FCW systems reduce rear-end collisions by 27 percent and injuries in such incidents by 20 percent. Effects on fatalities have not been recorded, as these crashes are likely at speeds too low to produce serious injuries.

AUTOMATED EMERGENCY BRAKING (AEB)

FCW led to the more advanced technology of AEB. These systems not only predict rear-end collisions but also apply the brakes for you.

This technology, when combined with a warning, is effective at reducing rear-end crashes by 50 percent and injuries by 56 percent, according to the IIHS. Even when AEB fails to prevent a crash, reducing the impact speed by, say, half has a major effect on the damage suffered by both cars, as well as potential occupant injuries.

A 2025 study by PARTS (the Partnership for Analytics Research in Traffic Safety, a collaboration between NHTSA and auto manufacturers) confirmed the crash-reduction performance of AEB. However, the study found that the technology was less effective at night, in bad weather, and around curves, and it showed that AEB is less reliable at detecting motorcycles, buses, and heavy trucks. It also determined that AEB is more effective with lighter vehicles: For every 1000-pound decrease in vehicle weight, AEB performed 4 percent better. That doesn't bode well for EVs or large trucks and SUVs.

AEB is largely standard today in new cars thanks to a voluntary agreement by 20 manufacturers (representing 99 percent of sales) to adopt the systems starting with 2023 models.

PEDESTRIAN AUTOMATED EMERGENCY BRAKING (PAEB)

The next step in AEB development was improving its ability to identify objects other than cars. PAEB systems tend to rely more on cameras.

An IIHS study from 2022 indicates that PAEB tech reduces the odds of daylight pedestrian collisions by 32 percent and injuries by about 30 percent. But performance falls in the dark, while the vehicle is turning, or if vehicle speed is over 50 mph. The PARTS study, which perhaps took these factors into account, found only a 9 percent reduction in nonmotorist impacts.

Still, this is important technology, as collisions between cars or trucks and pedestrians or motorcycles tend to injure or even kill the impacted parties. Therefore, NHTSA is making PAEB with both day and night detection mandatory, starting with 2030-model-year cars and light trucks.

BLIND-SPOT MONITORING (BSM)

Available for a couple of decades now, BSM tech uses sensors to detect vehicles in a driver's rear three-quarter view—the traditional blind spot. A BSM system can provide a visual or audible warning, and some will even steer the vehicle back straight if an object is present when a driver initiates a lane change.

According to the IIHS, these systems reduce lane-change crashes by 14 percent, with a 23 percent drop in injuries in those crashes.

ICYMI YOLO
Similar to our tests on the effects of alcohol and marijuana on driving, in 2009 we tested the pitfalls of texting while driving. The results were chilling. And then we got drunk and tried texting while driving. You can probably guess how that went.

THEN AND NOW

Length of interstate highways in 1955:

0

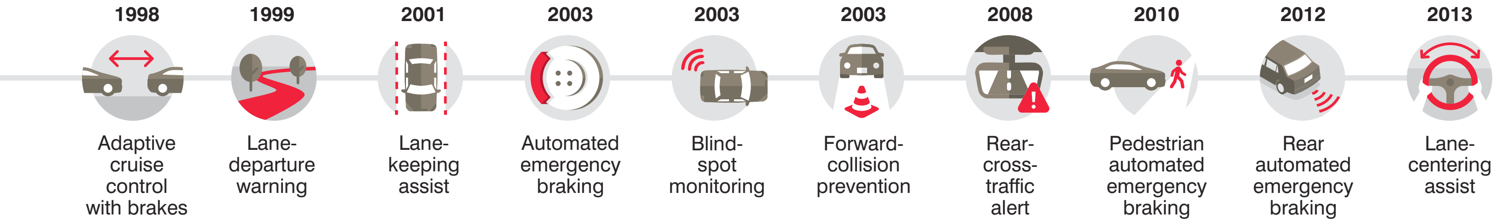
MILES

Length today:

48,699

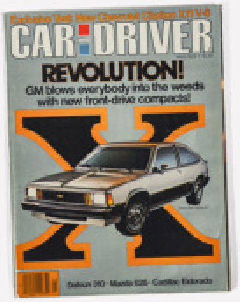
MILES

That's right, *Car and Driver* is older than the U.S. Interstate Highway System.


1998
Adaptive cruise control with brakes
1999
Lane-departure warning
2001
Lane-keeping assist
2003
Automated emergency braking
2003
Blind-spot monitoring
2003
Forward-collision prevention
2008
Rear-cross-traffic alert
2010
Pedestrian automated emergency braking
2012
Rear automated emergency braking
2013
Lane-centering assist

INFOGRAPHICS BY NICOLAS RAPP

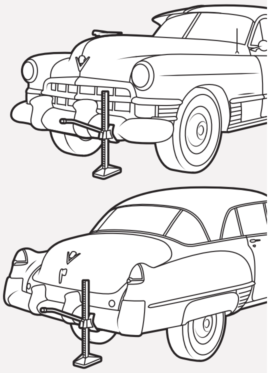
70
YEARS OF
CAR AND
DRIVER


CAR AND DRIVER
REVOLUTION!
GM blows everybody into the weeds with new front-drive compacts!
X

Number of X-car covers that declared it a "Revolution!":

1

MAY
1979



OUT OF THE TOOLBOX
When bumpers were steel and society had a greater appetite for danger, jacking up a car on the side of the road to change a tire used to involve a car's bumpers. The bumper jack would fit into a keyhole in the bumper and lift the car's front or rear end. Less stable than modern jacks, bumper jacks were prone to tipping over, and virtually no one mourns their extinction.

LANE-DEPARTURE WARNING (LDW)

LDW systems use cameras to monitor your position in your lane and warn you when you start to drift out. The warnings can be audible beeps or a steering-wheel vibration.

A 2018 IIHS study suggests LDW reduced crashes of all kinds by 11 percent and injuries by 21 percent, with older drivers benefiting the most. The PARTS study was less favorable, pointing out that drivers often turn these systems off. Jessica Cicchino at the IIHS says the systems that beep when the car approaches the edge of a lane are more likely to be turned off than the ones that shake the steering wheel. She also notes that the systems are not likely to do much when a driver is drunk or drowsy. Finally, they don't work well when lane markings have deteriorated or are obscured by snow or ice.

From an insurance-industry standpoint, these systems did not provide a reduction in claims, most likely because the decrease in crashes was offset by the repair cost of the additional sensors required by LDW. This is a potential problem for all ADAS technologies.

LANE-KEEPING ASSIST (LKA)

LKA takes LDW to the next level by actively steering a vehicle back into its lane when it starts to depart. Older systems used brakes on one side of a vehicle to do this, but newer LKA tech simply orders the electric power steering to direct the car back into the lane. According to PARTS, LKA reduces crashes by 5 percent.

LANE-CENTERING ASSIST (LCA)

One step further than LKA, LCA tries to keep the car centered in the lane at all times. PARTS determined there is no safety benefit beyond the small increment that LKA delivers.

BACKUP CAMERAS

Required since the 2018 model year, backup cameras are an obvious convenience for maneuvering in reverse. They reportedly reduce the rate of crashes related to driving in reverse by 17 percent. These collisions tend to be at low speeds, so the impact on injury and fatality rates is negligible.

REAR AUTOMATED EMERGENCY BRAKING (RAEB)

In combination with a backup camera and parking sensors, RAEB brings a 78 percent reduction in fender benders for cars backing up, according to a 2019 IIHS study. Again, these are low-speed incidents with little effect on injuries or fatalities.

REAR-CROSS-TRAFFIC ALERT

This system, which uses sensors in the rear sides of a vehicle, warns you if there are any vehicles approaching as you're backing up. A 2019 IIHS study says the tech is associated with a 22 percent lower rate of fender benders.

ADAPTIVE CRUISE CONTROL

We've seen no studies suggesting that adaptive cruise control provides any safety advantages.

CURVE-ADAPTIVE HEADLIGHTS

The IIHS has observed some benefits from these headlights but, as of yet, has not run studies to quantify them. This is another technology where the cost of the sophisticated parts could easily offset any savings on crash repairs.

AUTOMATIC HIGH-BEAMS (AHB)

We haven't come across any studies about the safety benefits of AHB. But what's interesting is that a 2006 University of Michigan report found that most drivers don't activate their brights often enough on rural roads. So the main benefit of AHB technology isn't that it prevents drivers from blinding oncoming traffic but that it engages the high-beams more often where extra illumination can be helpful.

AUTOMATED DRIVING SYSTEMS (ADS)

These include an assortment of self-driving systems, none of which are fully autonomous. There is no evidence that ADS tech, which incorporates all the aforementioned ADAS measures, delivers additional crash or safety benefits beyond what the combination of various stand-alone ADAS technologies provides.

Moreover, it's worth keeping in mind that drivers use these systems primarily on highways, which generally have fewer crashes than congested city streets. Therefore, statistics on accidents with ADS involved should be compared to conventional cars driving on highways, not overall accident measurements.

THE BIG PICTURE

While ADAS technology is somewhat of a mixed bag, AEB and its variations definitely provide significant safety benefits. BSM and LDW also appear to be effective. But these systems are far from universal, as it takes a long time for new technology to penetrate the United States' fleet of more than 303 million vehicles (as of 2022).

For example, ESC started to appear in 1995, and it took 17 years, until model year 2012, for it to be universally available in new cars. Even then, ESC was in less than 30 percent of the vehicle fleet in the U.S., and 10 years later, roughly 25 percent of vehicles in the States still didn't have it.

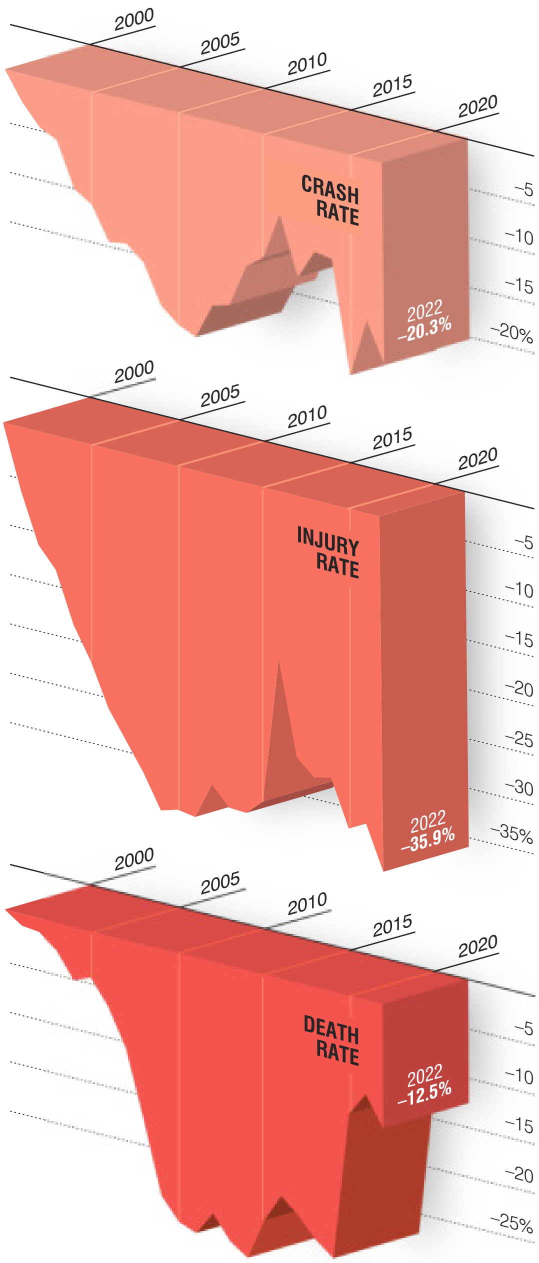
Nevertheless, there's no doubt that every year more of these safety features are present than the year before. Therefore, we should see their effects in overall auto-safety statistics soon, especially because recent models with more air-

BUMPER ILLUSTRATION: CHRIS PHILPOT; *C/D* COVER AND DRUM: MICHAEL SIMARI; ARRESTED ILLUSTRATION: BRETT AFFRUNTI

CRASHES, INJURIES, AND FATALITIES

Over the past quarter century, vehicle safety has continued its long-term improvement, with a few blips during the COVID-19 pandemic. But while crashes and injury rates are near all-time lows, fatalities remain inexplicably and substantially higher than the low reached in 2014.

CUMULATIVE CHANGE, ADJUSTED PER MILE DRIVEN



bags and better crash-test survivability rates are also proliferating. So, what do the numbers say?

The recent history of crash rates is not bad, with numbers dropping from a near-term high of 215 crashes per 100 million vehicle miles traveled (VMT) in 2016 to roughly 186 in 2022, the most recent year for which comprehensive data was available at press time. The all-time high was about 340 in 1988, the earliest year NHTSA reported such data. The all-time low of just under 181 crashes per 100 million VMT was first seen in 2011 and then repeated in 2020.

That spike in crash rates between 2011 and 2020 might be attributed to the scourge of cellphone use, with visible manipulation of handheld devices during that period peaking at 3.4 percent of drivers in 2021, according to NHTSA. The recent decline—jerky as it is—suggests that ADAS technology is starting to win the war against distracted drivers.

Vehicular injuries seem to have tracked with crashes, as the injury rate has also been in a secular decline since a peak of 169 per 100 million VMT back in 1988—until injuries started rising in 2009 and spiked in 2016 before resuming their overall long-term decrease. These numbers might also reflect the reduction in moderate-speed crashes due to ADAS.

Despite both crash and injury rates being down, vehicle-related fatalities have increased from an all-time low of 1.08 per 100 million VMT in 2014 to 1.33 for 2022. The peak of 1.38 during that timeframe came in 2021 amid the COVID-19 pandemic. Historically speaking, 1.38 is still a low number. In 1969, for example, the fatality rate was 5.04. In 1921, it was about 24 per 100 million VMT, the oldest such statistic we found.

But it's still puzzling when compared with the crash and injury rates. Another way to look at it is that we went from about 12 fatalities for every 1000 crash injuries in 2016 to roughly 18 in 2022.

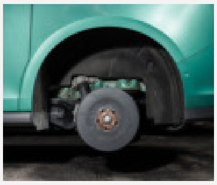
The researchers at NHTSA and the IIHS suggest that during the chaos of COVID-19, seatbelt use went down. It did, but not by much. They also blame an increase in impaired drivers, which is true, but overall fatalities also increased for unimpaired drivers, though not as significantly. And, as always, there are others who fault higher speeds.

Pedestrian deaths, as well as those of motorcyclists and bicyclists, also increased. But, excluding those, vehicle-occupant fatalities increased by 22.6 percent from the low in 2014.

Just before we went to press, NHTSA released its 2023 fatality count of 40,901. That translates to a fatality rate of 1.26, which, while down from the 2021 peak, is still 16.4 percent higher than the 2014 low. Surely any pandemic hangover is gone by now, but U.S. drivers are clearly doing something wrong. Nobody seems to know what. And, so far, ADAS tech hasn't provided a cure.

A GIANT LOSS
On September 30, 1955, actor James Byron Dean died in a car crash at age 24 while driving his Porsche 550 Spyder to a race. *Rebel Without a Cause*, only his second leading role, reached theaters the following month.

I CAN'T DRIVE 55
In January 1974, under the guise of energy conservation, the National Maximum Speed Limit went into effect and made 55 mph the fastest legal speed in the land. The limit increased to 65 mph in 1987 for rural interstates and mercifully went away in 1995.



DRUM IN
Drum brakes still work just fine. Ask anyone who owns an Audi Q4 e-tron; a Fiat 500e; a Hyundai Venue SE; a Nissan Kicks Play, Sentra S, or Versa; or a Volkswagen ID.4 or ID.Buzz.

THE MOSTLY HUMAN EDITOR OF OUR 140TH ANNIVERSARY ISSUE ASSESSES THE STATE OF CARS IN 2095.

BY EZRA DYER v2.1.3

HERE AT *CAR UND DRIVER*, WE PRIZE OUR POWERS of prognostication even more than we adore our aptitude for alliteration. But even the most clairvoyant cyborgs among us couldn't have predicted how much cars would change over the past 140 years. Let alone that magazines would still exist.

Today, most younger people hold fractional ownership of a car, splitting the cost with as many as six other drivers. These vroommates, as they're called, make up an increasing share of the market. Flarers, the generation born after the solar storms of 2071, often can't afford a whole car and don't require one anyway, given the ubiquity of drone delivery services and the unexpected popularity of roller skates as a "last mile" transportation solution. Some companies are attempting to drive down prices with no-frills designs—extruded cars, inflatable cars, the IKEA En Skitbil flat-pack wagon—and a few of those cost less than $1,000,000, making them a viable option for budget shoppers with a high tolerance for petrochemical off-gassing.

As we near the next century, Saab has become the most prosperous car company on this planet since discovering trollennium on the site of its old headquarters.

As we near the next century, Saab has become the most prosperous car company on this planet since discovering trollennium on the site of its old headquarters. "You can't build cars without trollennium" is just a basic fact. Without this miracle mineral, your microtokamak fusion reactor would be as worthless as a deed to a quadrant on the Soggy Isthmus. Although Saabs are front-wheel drive, they mount their tokamaks longitudinally, as any owner will be happy to tell you at Cars & Caffeine Crystals.

Overall, car performance continues to improve. The slowest vehicle we tested last year was the XYZ Meanderer, a compact van aimed at floral choreographers and mobile taxidermists, which sauntered to 60 in a yawn-inducing 1.1 seconds. The quickest one we tested was the Mahindra Hallucination, which spun all eight tires to 200 mph in 0.1 second and became the first car to win the Nobel Prize in Physics after opening a wormhole during the Las Vegas Dragway grudge matches.

The most popular vehicle segment is the PIG (personal implement of grandiosity), which evolved from the SUVs that were popular at the beginning of the century. Those unwieldy machines became lower, following cultural trends (the wild popularity of the Pro Limbo League, for one), and eventually traded four small doors for two longer ones. Now that we fill tires with self-healing trollennium gas, spares are, of course, no longer necessary, but most PIGs sport a handsome faux spare atop the lid of the covered cargo area. As for interiors, the craze for crushed-velour upholstery doesn't show any signs of slowing. Pragmatists bemoan the PIG fad, but trends are generational, and car buyers these days just can't imagine driving their parents' old hoverbus.

When it comes to infotainment displays, nobody's topped the 2087 Smudgemaster Glitch 5000—a 17-foot screen with wheels. Sadly, no one could ever figure out how to put it in gear or whether it was even capable of moving under its own power, but it did boast the most piano-black trim in the PIG class until the arrival of the Smudgemaster Steinway.

Advances in materials transmutation have enabled concepts that only the most brilliant minds could have imagined in 2025, such as folding cars and cars that look like your dog but bigger. Of course, pranksters love to hack vehicles to turn them into off-menu forms, so sometimes you walk out to your car to find that it's now Mount Rushmore, complete with all five faces, and you've got to climb in through Cher's ear. That's one reason some companies refuse to offer such a model. Porsche claims the tech doesn't meet its standards of reliability, but we suspect the real reason for the company's reticence is that the active polymer molecules refuse to align themselves to form the word "turbo."

Remotely enabled features were gaining acceptance through the 2050s, until BMW-Benz took things too far with its ill-fated subscription-based steering. "Unlock full lock!" became a rallying cry for aggravated consumers who found that when their trial period expired, they could only turn left. Facing an outpouring of public ire, BMW-Benz canceled that program and added a free 500E emulation to all models, including the new X12e 4Matic+ 63isL M Sport GranSport Cabrio Alpina-Maybach CSL Evolution Manufaktur Coupé ii.

But with all the progress, there's still plenty of innovation on the horizon. Fully autonomous cars are just a few years away. ■

PHOTO ILLUSTRATION BY ROY RITCHIE

ROAD & TRACK
EXPERIENCES

Blue Ridge
RAMBLE
2025

3 STATES
2 TRACK DAYS
1 EPIC ADVENTURE

NOVEMBER 3-7, 2025
GEORGIA, NORTH CAROLINA, AND TENNESSEE

From the rolling hills of Georgia to the Appalachian mountain ranges of Tennessee to winding roads of North Carolina, the Southeast offers an unforgettable driving experience. Cruise along the finest roads in the region—including multiple bucket-list worthy drives—and rev up for an exciting exploration through the region. Of course, we couldn't visit Appalachia without doing a run down the **Tail of the Dragon and the Cherohala Skyway!**

Blue Ridge Ramble boasts **not one, but two track days**! First, we'll conquer the 1.6-mile track at the **Porsche Experience Center** in Atlanta, before buckling up for **Atlanta Motorsports Park's** 16-turn circuit. Gear up for high-adrenaline driving experiences sure to please any thrill-seeker.

To unwind from all the thrills, we'll make pit stops at boutique hotels and **luxury resorts**— Nobu Atlanta, Chateau Elan, Tapoco Lodge, and The Oliver—and will savor delectable culinary experiences throughout the trip. Get ready for five unforgettable days of scenic drives, automotive-inspired pit stops and countless opportunities to connect with editors and fellow car lovers.

**Itinerary subject to change*

WHAT OUR ATTENDEES ARE SAYING:

> ***"[We] had a great time and look forward to joining future events."***

Reserve your spot now — space is limited. Apply today. Visit experiences.roadandtrack.com to learn more.

The all-electric, three-row Kia EV9.

Remarkably premium.
Relentlessly capable.

KIA
Movement that inspires

The EV9 is the best of two worlds. It's a ruggedly powerful SUV with available AWD, 379 horsepower, and 5,000 lbs. of towing capacity. And, it's a sleek and premium EV, with a three-row cabin, and Kia's most advanced tech. It's all the things you never knew you could have in one amazing vehicle.

2026 EV9 GT-Line e-AWD shown with optional features. Some features may vary. Limited inventory available. No system, no matter how advanced, can compensate for all driver error and/or driving conditions. Always drive safely. Towing may significantly reduce electric range and requires additional equipment. See Owner's Manual for towing instructions. Always use caution while towing.